

**Srinivasulu Ale**

Associate Professor (Geospatial Hydrology)

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Texas A&M Agrilife Research  
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Department of Biological & Agricultural Engineering  
Texas A&M University  
College Station, TX 77843.

**Education**

2009 Ph.D. Agricultural & Biological Engineering, Purdue University, West Lafayette, IN  
1992 M.S. Agricultural Engineering, G.B. Pant University of Ag. & Tech., Pantnagar, India  
1989 B.S. Agricultural Engineering, Andhra Pradesh Ag. University, Hyderabad, India

**Professional Experience**

9/2016 – Present Associate Professor, Texas A&M Agrilife Research, Vernon, TX  
9/2016 – Present Associate Professor, Dept. of Biological & Agricultural Engineering, Texas A&M University, College Station, TX  
12/2010 – 8/2016 Assistant Professor, Texas A&M Agrilife Research, Vernon, TX  
12/2010 – 8/2016 Assistant Professor, Dept. of Biological & Agricultural Engineering, Texas A&M University, College Station, TX  
5/2009 – 12/2010 Postdoctoral Research Associate, Purdue University, West Lafayette, IN  
6/2005 – 5/2009 Graduate Research Assistant, Purdue University, West Lafayette, IN  
9/2001 – 12/2001 Visiting Scientist, Alterra-ILRI (International Institute for Land Reclamation and Improvement), Wageningen, The Netherlands  
8/1993 – 5/2005 Assistant Professor, Department of Agricultural Engineering, A.N.G. Ranga Agricultural University (ANGRAU), Andhra Pradesh, India  
5/1992 – 8/1993 Project Associate, Agriculture & Rural Development Area, Administrative Staff College of India, Hyderabad, India

**Research Interests**

Water resources management on crop, pasture and rangelands; Land use change and rangeland management impacts on hydrology and water quality; climate change impacts on hydrology and crop production; Water quality assessment and management; Irrigation and drainage.

**Honors and Awards**

2014 Research Excellence Award, Dept. of Biological & Agricultural Engineering, Texas A&M University, College Station, TX.  
2012 Outstanding Reviewer, Soil & Water Division, ASABE Journals.  
2008 Outstanding Ph.D. Student Award, Dept. of Agricultural and Biological Engineering, Purdue University, IN.  
2003 Young Scientist Award, A.N.G Ranga Agricultural University, India.  
1990-1992 United Nations Development Project (UNDP) fellowship (for M.S. study).  
1985-1989 State Government Merit Scholarship (for B.S. study).

### **Professional and Synergistic Activities**

- Invited Member, Alpha Epsilon Agricultural Engineering Honor Society.
- Member, American Society of Agricultural and Biological Engineers (ASABE); American Geophysical Union (AGU); International Association of Hydrological Sciences (IAHS).
- Fellow, Indian Water Resources Society (IWRS); Indian Association of Hydrologists (IAH).
- Life member, Indian Society of Agricultural Engineers; Andhra Agricultural Union.
- Associate Editor, Natural Resources and Environmental Systems (NRES), ASABE Journals (Transactions of the ASABE; Applied Engineering in Agriculture), 2013-present.
- Panel Proposal Reviewer, USDA-NIFA Water for Food Production Systems (2018), NSF-INFEWS (2017), USDA-NIFA Foundational Program (2017)
- Reviewer, USGS-NIWR 104(g) grant proposals (2014, 2016); USDA-Ogallala Aquifer Program proposals (2015, 2016); 120+ manuscripts for 30 journals
- Secretary, NRES Division, ASABE (2017-2018).
- Chair, NRES-23 Drainage Group, ASABE (2015-2017).
- Chair, NRES-07 Nomenclature Committee, ASABE (2016-2018).
- Chair-Elect, Texas Section ASABE (2017-2018).
- Vice-Chair (Program and Plans), Texas Section ASABE (2016-2017).
- Chair, Awards Committee, Texas Section ASABE (2015-2016).
- Vice-Chair, NRES-07 Nomenclature Committee, ASABE (2014-2016).
- Vice-Chair, SW-23 Drainage Group, ASABE (2013-2015).
- Vice-Chair (Continuing Education), Texas Section ASABE (2014-2015).
- Member, ASABE Model Calibration and Validation Standards Process Committee; ASABE EP479 Standard Revision Committee.

### **Research Grants**

- Morgan, C.L.S., Woodward, R., McIntosh, W.A. and **Ale, S.** Actionable links between soil function, ecosystem services, and stakeholder perceptions to overcome barriers to improved soil management. USDA-NIFA Foundational Program, \$496,000 (2018-2022).
- Adams, C., Trostle, C., **Ale, S.**, DeLaune, P., Park, S., Hoogenboom, G., Boote, K. Enhancing ecosystem services through integration of guar into wheat cropping systems of the Southern Great Plains. USDA-NIFA Foundational Program, \$445,000 (2018-2022).
- Wang, T., Feng, H., Hennessy, D.A., **Ale, S.** and Park, J. Saving grassland of the Great Plains: Is management intensive grazing (MIG) a socioeconomically viable option? USDA-NIFA Foundational Program, \$500,000 (2017-2020).
- Chaubey, I., **Ale, S.**, Fox, G., Drollinger, D., Gitau, M.W., Haman, D., Harmel, R.D., Irmak, S., Nejadhashemi, P., Saraswat, D., Searcy, S., Swamy, A.A., Quansah, J. and Wolfe, M.L. Global Water Security for Agricultural Production and Natural Resources. USDA-NIFA Foundational Program – Agricultural Engineering (Conference proposal). \$50,000 (2018).

- **Ale, S.**, Bordovsky, J. and Thorp, K. Determining optimum irrigation termination periods for cotton production in the Texas High Plains using the DSSAT Cropping System Model. Cotton Incorporated. \$28,000 (2017-2018).
- **Ale, S.**, Bordovsky, J.P. and Porter, D. Development and evaluation of efficient irrigation management strategies for grain sorghum production in the Texas High Plains under current and future climate scenarios. USDA-ARS Ogallala Aquifer Program, \$44,220 (2015-2020).
- Bordovsky, J. P., Wall, J. A., Porter, D., Biggers, K. and **Ale, S.** 2015. Development, deployment and demonstration of the Dashboard for Irrigation Efficiency Management (DIEM). Texas A&M Water Seed Grant. \$258,857 (2015-2017).
- **Ale, S.**, DeLaune, P.B. and Thorp, K. Evaluating the feasibility of cover crops in the Texas Rolling Plains cotton production systems using the DSSAT Cropping System Model. Cotton Incorporated. \$28,000 (2015-2016).
- Rajan, N., Maas, S., **Ale, S.** and Casey, K. Impacts of biofuel induced land use change on energy, water, carbon and greenhouse gas balances of the Southwestern U.S. Cotton Belt region. USDA-NIFA Sustainable Bioenergy program, \$500,000 (2012-2017).
- Teague, W. R. and **Ale, S.** Evaluate the impact of using traditional and multi-paddock grazing in southern Tallgrass Prairie on water catchment functions. Dixon Water Foundation, \$117,968 (2014-2017).
- Rajan N. and **Ale, S.** Testing of cotton crop models for evapotranspiration and crop water use estimation. Cotton Incorporated. \$10,000 (2015).
- Bordovsky, J. P., Wall, J. A., Porter, D., Biggers, K., Kelly, M. and **Ale, S.** Timely management of limited irrigated crops in Texas using an empirically-based model and innovative information dashboard technology. Texas A&M Water Seed Grant. \$290,575 (2014-2015).
- **Ale, S.**, Bordovsky, J., Rajan, N. and Thorp, K. Assessing the climate change impacts on cotton production in the Texas High Plains using the DSSAT CROPGRO-Cotton model. Cotton Incorporated. \$14,000 (2014).
- **Ale, S.**, Rajan, N. and Thorp, K. Assessment of water requirements and development of irrigation management plans for cotton production in the Texas High Plains using the DSSAT CROPGRO-Cotton model. Cotton Incorporated. \$17,000 (2013).
- Rajan, N., **Ale, S.** DeLaune, P.B., Baughman, T., Park, S., Bean, B., Xue, Q. and Maas, S. Development and evaluation of technologies for improving crop production and formulating decision management tools. Texas AgriLife Research Cropping Systems Initiative, \$300,000 (2011-2013).
- Rajan, N., **Ale, S.** and DeLaune, P.B. Demonstrating tools for improving on-farm irrigation efficiency. Texas Water Development Board, \$77,208 (2011-2012).
- Bowling, L.C and **Ale, S.** The influence of subsurface drainage on watershed stream flow and nitrate load, potential for water conservation. USDA NRI, \$ 300,000 (2008-2011).

- Satyanarayana, T.V., Ale, S., Ratnam, M., Lakshmi, G.V. and Seetharamaiah, K.V. Water saving canal irrigated rice production system. Water Conservation Mission, Govt. of Andhra Pradesh, India, Indian Rupees 0.3 million (US\$ 7,500), (2002-2004).

### **Teaching Experience**

- Member, Graduate Faculty, Texas A&M University, College Station, TX.
- Member, Water Faculty, Water Management and Hydrologic Science program (<http://waterprogram.tamu.edu/>), Texas A&M University, College Station, TX.
- Member, Graduate Faculty, Purdue University, West Lafayette, IN.
- Member, Graduate Faculty (Adjunct), Tarleton State University, Stephenville, TX.

#### ***Teaching experience at Texas A&M AgriLife Research/Texas A&M Univ. (since Dec 2010)***

- Gave a lecture on ‘Calibration and validation of hydrologic and water quality models’ for ‘Modeling small watersheds (BAEN 673)’ graduate course at Texas A&M University, College Station in Spring 2017.
- Gave a webinar lecture on “Decadal trends in Texas groundwater levels and groundwater quality” to graduate students in Environmental Engineering at Texas A&M University, Kingsville as a part of Environmental Engineering seminar series in Spring 2015.
- Served as a faculty advisor/co-advisor for four capstone project teams.

#### ***Teaching experience at Purdue University, West Lafayette, USA (May 2009 to Dec 2010)***

- Gave a lecture on ‘Measures to reduce nitrate loss from subsurface drainage systems’ for ‘Non-point Source Pollution Engineering (ABE 591)’ graduate course in Spring 2010.
- Taught ‘Agricultural Drainage’ chapter as a part of ‘Environmental Hydrology (AGRY 399)’ undergraduate course in Spring 2010.
- Developed and conducted a lab on ‘Measurement of subsurface drainage and estimation of nitrate losses at Purdue Water Quality Field Station’ for the ‘Environmental Hydrology (AGRY 399)’ course.

#### ***Teaching experience at ANG Ranga Agricultural University, India (Aug 1993 to May 2005)***

- Taught following courses independently (class sizes varied from 25 to 125 students):
  - Irrigation Engineering (3 semesters)
  - Surveying and Leveling (6 semesters)
  - Soil and Water Conservation Engineering (6 semesters)
  - Wells and Pumps (3 semesters)
  - Hydrology and Watershed Management (1 semester)
  - Fluid Mechanics and Open Channel Hydraulics (1 semester)
  - Agricultural Structures (1 semester)
  - Optimization in Agricultural Engineering (1 semester)
- Served as a faculty advisor for 6 undergraduate research projects (similar to capstone).

**Postdoctoral Research Associates in my Research Group (Past and Present):**

1. Dr. Jungjin Kim, Post-Doc (Range Hydrology); September 7, 2017 – present.
2. Dr. Nina Omani, Post-Doc (Geospatial Hydrology), January 17, 2017 – October 4, 2017.
3. Dr. Jong-Yoon Park, Post-Doc (Range Hydrology); June 1, 2014 – October 3, 2016.
4. Dr. Pradip Adhikari, Post-Doc (Geospatial Hydrology); July 2, 2014 – August 16, 2016.
5. Dr. Sriroop Chaudhuri, Post-Doc (Geospatial Hydrology); August 2011 – April 2014.

**Service as Chair/Co-Chair on graduate student committees:**

Current Students (2)

1. Kritika Kothari; Degree: Ph.D. in Biological and Agricultural Engineering, Texas A&M University; Research Area: Assessing adaptation strategies for coping with increasing climate variability and drought incidence. Co-Chairs: C.L. Munster and **S. Ale**. Expected graduation: December 2018.
2. Abhinav Kandpal; Degree: M.Eng. in Biological and Agricultural Engineering, Texas A&M University; Co-Chairs: **S. Ale** and C.L. Munster. Expected graduation: May 2018.

Graduated Students (5)

3. Victoria Garibay, M.S. in Biological and Agricultural Engineering, Texas A&M University; Thesis: Development and Evaluation of Efficient Irrigation Strategies for Cotton Production in the Southern High Plains under Declining Groundwater Availability. Co-Chairs: **S. Ale** and C.L. Munster. Graduated in December 2017.
4. Yong Chen, Ph.D. in Soil and Crop Sciences, Texas A&M University; Dissertation: Assessing the impacts of land use change from cotton (*Gossypium Hirsutam* L.) to cellulosic bioenergy crops on watershed hydrology and water quality in the Texas High Plains. Co-Chairs: N. Rajan and **S. Ale**. Graduated in December 2016.
5. Naga Raghuvver Modala; Ph.D. in Biological and Agricultural Engineering, Texas A&M University; Dissertation: Assessing the impacts of climate change on cotton production in the Texas High Plains and Rolling Plains. Co-Chairs: **S. Ale** and C. L. Munster. Graduated in December 2014.
6. Shailee Jain; M.S. in Water Management and Hydrological Science, Texas A&M University; Thesis: Modeling the hydrological impact of Arundo Donax on the headwaters of the Nueces River using SWAT. Co-Chairs: C. L. Munster and **S. Ale**. Graduated in August 2014.
7. Ranjit Jha; M.S. in Water Resources Development and Management, Indian Institute of Technology, Roorkee; Thesis: Evaluation of a canal irrigation system performance using remote sensing and GIS. Co-Chairs: Ashish Pandey and **S. Ale**. Graduated in May 2017.

**Service as a Member on graduate student committees:**

Current Students (4)

1. Mingyue Yang; Degree: Ph.D. in Water Management and Hydrological Science, Texas A&M University; Research Area: Applying regionalization methods and computer modeling to estimate streamflow in ungauged sites. Expected graduation: TBD.

2. Fernando Jarrin Perez; Degree: Ph.D. in Biological and Agricultural Engineering, Texas A&M University; Research Area: SWAT modeling of the Zhurucay River Catchment. Expected graduation: TBD.
3. Samaneh Saadat; Degree: Ph.D. in Agricultural and Biological Engineering, Purdue University, West Lafayette, IN; Research Area: Understanding and evaluating hydrological and environmental impacts of controlled drainage at the field scale using observations and simulated data. Expected graduation: May/August 2018.
4. Michelle Wood Ramirez; Degree: M.S. in Water Management and Hydrological Science, Texas A&M University; Research area: Bio-retention modeling. Expected graduation: TBD.

#### Graduated Students (6)

5. Sumit Sharma; Ph.D. in Soil and Crop Sciences, Texas A&M University; Dissertation: Carbon, evapotranspiration and energy balance dynamics of potential bioenergy crops compared to cotton in the Southern Great Plains. Graduated in May 2017.
6. Abhishek Singh; M.S. in Biological and Agricultural Engineering, Texas A&M University; Thesis: Quantifying Uncertainty in Probable Maximum Precipitation. Graduated in December 2016.
7. Benjamin Jacobson; M.W.M. (Non-thesis) in Water Management and Hydrological Science, Texas A&M University; Presentation: Winery effluent and wastewater irrigation. Graduated in December 2016.
8. Sarah Rutkowski; M.S. in Agricultural and Biological Engineering, Purdue University, West Lafayette, IN; Thesis: Assessing climate change variability impacts on subsurface drainage and streamflow patterns in agricultural watersheds. Graduated in May 2012.
9. Mohan Rao, B.V.; M.S. in Soil and Water Engineering, Acharya N.G. Ranga Agricultural University, Hyderabad, India; Thesis: Performance evaluation of 'DRAINMOD' in a drained area of Krishna Western Delta. Graduated in July 2011.
10. Marisa Bumguardner; M.S. in Water Management and Hydrological Science, Texas A&M University; Thesis: Feedstock logistics of a mobile pyrolysis system and assessment of soil loss due to biomass removal for bioenergy production. Graduated in June 2011.

#### **Publications**

([Google Scholar](#) citations: 661; h-index: 15; i10-index: 23 as of March 23, 2018)

Refereed Journal Articles: **52**

Book Chapters: **1**

Conference Papers: **76** (27 full-length/proceedings papers and 49 abstracts/posters)

Research/Extension/Technical Bulletins: **6**

Research Reports/Edited Proceedings: **14**

Popular press articles: **15**

Invited Talks/Presentations/Guest Lectures: **14**

## Book Chapter

1. Sands, G.R., **S. Ale**, L.E. Christianson, and N. Utt. 2017. Subsurface (tile) agricultural drainage. In: Hazlett, R., Bogucki, P., Huertos, M.L., Nemes, A., and Provenzano, G. (Eds.) Oxford Research Encyclopedia of Agriculture and the Environment. Oxford University Press. DOI: 10.1093/acrefore/9780199389414.013.270.

## Refereed Journal Articles (52)

(<sup>1</sup>Post-Doc supervisee;   <sup>2</sup>Graduate/Undergraduate Student advisee/co-advisee)

1. Chen<sup>2</sup>, Y., **S. Ale**, and N. Rajan. 2018. Implications of Biofuel-Induced Changes in Land Use and Crop Management on Sustainability of Agriculture in the Texas High Plains. *Biomass and Bioenergy*. 111: 13-21.
2. Adhikari<sup>1</sup>, P., N. Omani<sup>1</sup>, **S. Ale**, P.B. DeLaune, K. R. Thorp, E.M. Barnes, and G. Hoogenboom. 2017. Simulated effects of winter wheat cover crop on cotton production systems of the Texas Rolling Plains. *Transactions of ASABE*. 60(6): 2083-2096.
3. Chen<sup>2</sup>, Y., **S. Ale**, N. Rajan, and R. Srinivasan. 2017. Modeling the effects of land use change from cotton (*Gossypium hirsutum* L.) to perennial bioenergy grasses on watershed hydrology and water quality under changing climate. *Agricultural Water Management*.192: 198-208.
4. Park<sup>1</sup>, J., **S. Ale**, and W.R. Teague. 2017. Simulated water quality effects of alternate grazing management practices at the ranch and watershed scales. *Ecological Modeling*. 360: 1-13.
5. Chen<sup>2</sup>, Y., **S. Ale**, N. Rajan, and C.L. Munster. 2017. Assessing the hydrologic and water quality impacts of biofuel-induced changes in land use and management. *Global Change Biology - Bioenergy*. 9(9): 1461-1475.
6. Park<sup>1</sup>, J., **S. Ale**, W.R. Teague, and J. Jeong. 2017. Evaluating the ranch and watershed scale impacts of using traditional and adaptive multi-paddock grazing on runoff, sediment, and nutrient losses in North Texas. *Agriculture, Ecosystems and Environment*. 240: 32-44.
7. Park<sup>1</sup>, J., **S. Ale**, W.R. Teague, and S.L. Dowhower. 2017. Simulating hydrologic responses to alternate grazing management practices at the ranch and watershed scales. *Journal of Soil and Water Conservation*. 72(2): 102-121.
8. Loy, S., J. Tahtouh, C. Munster, K. Wagner, A. Fares, **S. Ale**, R. Vierling, F. Jaber, and A. Jantrania. 2017. State of the art of water for food within the nexus framework. Topical collection on nexus of food, water, energy. *Current Sustainable Renewable Energy Reports*. 4(3):130-136.
9. Sharma, S., N. Rajan, S. Cui, K. Casey, **S. Ale.**, R. Jessup, and S. Maas. 2017. Seasonal variability of evapotranspiration and carbon exchanges over a biomass sorghum field in the Southern U.S. Great Plains. *Biomass and Bioenergy*. 105: 392-401.
10. Mauget, S., P. Adhikari<sup>1</sup>, G. Leikar, L. Baumhardt, K. R. Thorp and **S. Ale**. 2017. Modeling the Effects of Management and Elevation on West Texas Dryland Cotton Production. *Agricultural and Forest Meteorology*. 247: 385-398.

11. Modala<sup>2</sup>, N.R., **S. Ale**, D. Goldberg, M. Olivares, C. Munster, N. Rajan and R. Feagin. 2017. Climate change projections for the Texas High Plains and Rolling Plains. *Theoretical and Applied Climatology*. 129(1): 263-280.
12. Chen<sup>2</sup>, Y., **S. Ale**, and N. Rajan. 2016. Spatial variability of biofuel production potential and hydrologic fluxes of land use change from cotton (*Gossypium hirsutum L.*) to Alamo switchgrass (*Panicum virgatum L.*) in the Texas High Plains. *BioEnergy Research*. 9(4): 1126-1141.
13. Adhikari<sup>1</sup>, P., **S. Ale**, J.P. Bordovsky, K. R. Thorp, N.R. Modala<sup>2</sup>, N. Rajan, and E.M. Barnes. 2016. Simulating future climate change impacts on seed cotton yield in the Texas High Plains using the CSM-CROPGRO-Cotton model. *Agricultural Water Management*. 164:317-330.
14. Chen<sup>2</sup>, Y., **S. Ale**, N. Rajan, C.L.S. Morgan and J. Park<sup>1</sup>. 2016. Hydrological responses of land use change from cotton (*Gossypium hirsutum L.*) to cellulosic bioenergy crops in the Southern High Plains of Texas, USA. *Global Change Biology - Bioenergy*. 8(5): 981-999. (Highlighted on the cover page and featured on GCB Bioenergy's "Under the Covers")
15. Modala<sup>2</sup>, N.R., **S. Ale**, N. Rajan, C. Munster, P.B. DeLaune, K. R. Thorp, S. Nair and E. Barnes. 2015. Evaluation of the CSM-CROPGRO-Cotton model for the Texas Rolling Plains region and simulation of deficit irrigation strategies for increasing water use efficiency. *Transactions of the ASABE*. 58(3): 685-696.
16. Jain<sup>2</sup>, S., **S. Ale**, C. Munster, J. Ansley and J. Kiniry. 2015. Simulating the hydrologic impact of *Arundo Donax* invasion on the Headwaters of the Nueces River in Texas. *Hydrology*. 2: 134-147.
17. Daggupati, P., N. Pai, **S. Ale**, K.R. Douglas-Mankin, R. Zeckoski, J. Jeong, P.B. Parajuli, D. Saraswat, and M.A. Youssef. 2015. A recommended calibration and validation strategy for hydrologic and water quality models. *Transactions of the ASABE*. 58(6): 1705-1719.
18. Saraswat, D., J.R. Frankenberger, N. Pai, **S. Ale**, P. Daggupati, K.R. Douglas-Mankin, and M.A. Youssef. 2015. Hydrologic and water quality models: Documentation and reporting procedures for calibration, validation and use. *Transactions of the ASABE*. 58(6): 1787-1797.
19. Chaudhuri<sup>1</sup>, S. and **S. Ale**, 2014. Evaluation of long-term (1960-2010) groundwater fluoride contamination in Texas. *Journal of Environmental Quality*. 43(4): 1404-1416.
20. Chaudhuri<sup>1</sup>, S. and **S. Ale**, 2014. Long-term (1930-2010) trends in groundwater levels in Texas: Influences of soils, landcover and water use. *Science of the Total Environment*. 490: 379-390.
21. Thorp, K. R., **S. Ale**, M. P. Bange, E. M. Barnes, G. Hoogenboom, R. J. Lascano, A. C. McCarthy, S. Nair, J. O. Paz, N. Rajan, K. R. Reddy, G. W. Wall, and J. W. White. 2014. Development and application of process-based simulation models for cotton production: A review of past, present, and future directions. *Journal of Cotton Science*. 18: 10-47.
22. Chaudhuri<sup>1</sup>, S. and **S. Ale**, 2014. Lon-term (1960-2010) trends in groundwater contamination and salinization in the Ogallala aquifer in Texas, USA. *Journal of Hydrology*. 513: 376-390.



23. Chaudhuri<sup>1</sup>, S. and **S. Ale**, 2014. Temporal evolution of depth-stratified groundwater salinity in municipal wells in the major aquifers in Texas, USA. *Science of the Total Environment*. 472: 370-380.
24. Chaudhuri<sup>1</sup>, S. and **S. Ale**, 2014. An appraisal of groundwater quality in Seymour and Blaine aquifers in a major agro-ecological region in Texas, USA. *Environmental Earth Sciences*. 71(6): 2765-2777.
25. **Ale, S.**, P.H. Gowda, D.J. Mulla, D.N. Moriasi, and M.A. Youssef 2013. Comparison of the performances of DRAINMOD-NII and ADAPT models in simulating nitrate losses from subsurface drainage systems. *Agricultural Water Management*. 129: 21-30.
26. Moriasi, D.N., P.H. Gowda, J.G. Arnold, D.J. Mulla, **S. Ale**, J.L. Steiner and M. D. Tomer 2013. Evaluation of the Hooghoudt and Kirkham tile drain equations in SWAT to simulate tile flow and nitrate-nitrogen. *Journal of Environmental Quality*. 42:1699-1710.
27. Moriasi, D.N., P.H. Gowda, J.G. Arnold, D.J. Mulla, **S. Ale** and J.L. Steiner 2013. Modeling the impact of nitrogen fertilizer application and tile drain configuration on nitrate leaching using SWAT. *Agricultural Water Management*. 130: 36-43.
28. Chaudhuri<sup>1</sup>, S. and **S. Ale**, 2013. Characterization of groundwater resources in the Trinity and Woodbine aquifers in Texas. *Science of the Total Environment*. 452-453: 333-348.
29. Mirik, M., S. Chaudhuri<sup>1</sup>, B. Surber, **S. Ale** and R.J. Ansley, 2013. Detection of two intermixed invasive woody species using color infrared aerial imagery and support vector machine classifier. *Journal of Applied Remote Sensing*. 7 (073588):1-13. [doi: 10.1117/1.JRS.7.073588].
30. Mirik, M., S. Chaudhuri<sup>1</sup>, B. Surber, **S. Ale** and R.J. Ansley, 2013. Evaluating biomass of juniper trees (*Juniperus pinchotii*) from imagery-derived canopy area using the support vector machine classifier. *Advances in Remote Sensing*. 2(2):181-192.
31. Gowda, P.H., D.J. Mulla, V. Nangia and **S. Ale**, 2013. Scale effects of STATSGO and SSURGO on flow and water quality predictions. *Journal of Water Resource and Protection*. 5(3): 266-274.
32. Chaudhuri<sup>1</sup>, S., **S. Ale**, P. DeLaune and N. Rajan, 2012. Spatio-temporal variability of groundwater nitrate concentration in Texas: 1960 to 2010. *Journal of Environmental Quality*. 41(6): 1806-1817.
33. **Ale, S.**, L.C. Bowling, M.A. Youssef and S.M. Brouder, 2012. Evaluation of simulated strategies for reducing nitrate loss through subsurface drains. *Journal of Environmental Quality*. 41(1): 217-228.
34. **Ale, S.**, L. Bowling, P. Owens, S. Brouder and J. Frankenberger, 2012. Development and application of a distributed modeling approach to assess the watershed-scale impact of drainage water management. *Agricultural Water Management*. 107:23-33.
35. Kennedy, C.D., C. Bataille, Z. Liu, **S. Ale**, J. VanDeVelde, C. R. Roswell, L. C. Bowling, G. J. Bowen. 2012. Dynamics of nitrate and chloride during storm events in agricultural catchments with different subsurface drainage intensity (Indiana, USA). *Journal of Hydrology*. 466-467(2012): 1-10.

36. Mohan Rao<sup>2</sup>, B.V., M. Raghu Babu, **S. Ale**, T.V. Satyanarayana, and M. Madhava. 2011. Performance evaluation of subsurface drainage system at Appikatla drainage pilot area in Krishna Western Delta using DRAINMOD. *The Andhra Agricultural Journal*. 58 (4): 532-538.
37. **Ale, S.**, L.C. Bowling, J.R. Frankenberger, S.M. Brouder and E.J. Kladvko, 2010. Climate variability and drain spacing influence on drainage water management system operation. *Vadose Zone Journal*. 9(1): 43-52.
38. **Ale, S.**, L.C. Bowling, S.M. Brouder, J.R. Frankenberger and M.A. Youssef, 2009. Simulated effect of drainage water management operational strategy on hydrology and crop yield for Drummer soil in the Midwestern United States. *Agricultural Water Management*. 96(4): 653-665.
39. Naz, B.S., **S. Ale**, L.C. Bowling, 2009. Detecting subsurface drainage systems and estimating subsurface drain spacing in intensively-managed agricultural landscapes. *Agricultural Water Management*. 96(4): 627-637.
40. Ratnam, M., G.V. Lakshmi, G.K. Reddy, **A. Srinivasulu** and T.V. Satyanarayana, 2007. Performance of rice varieties under saline sodic soils of Konanki pilot area. *The Andhra Agricultural Journal*. 54(3&4): 213-215.
41. **Srinivasulu, A.**, T.V. Satyanarayana, M. Raghu Babu and H.V. Hema Kumar, 2006. Performance evaluation of drainage systems in water logged coastal sandy clay loam soil at a pilot area in Krishna western delta. *Journal of Agricultural Engineering*. 43(1): 8-12.
42. **Srinivasulu, A.**, T.V. Satyanarayana, and H.V. Hema Kumar, 2005. Subsurface drainage in a pilot area in Nagarjunasagar right canal command, India. *Irrigation & Drainage Systems*. 19(1): 61-70.
43. **Srinivasulu, A.** and T.V. Satyanarayana, 2005. Development and application of an LP model for conjunctive use of water resources in saline groundwater areas. *Journal of Institution of Engineers (India), Agricultural Engineering Division* 86(AG1): 40-44.
44. **Srinivasulu, A.**, Ch. Sujani Rao, G.V. Lakshmi, T.V. Satyanarayana and J. Boonstra, 2004. Model studies on salt and water balances at Konanki pilot area, Andhra Pradesh, India. *Irrigation & Drainage Systems*. 18(1): 1-17.
45. Ravikumar<sup>2</sup>, M., J.L.N. Sudha<sup>2</sup>, **A. Srinivasulu** and T.V. Satyanarayana, 2004. Estimation of crop water requirement and its comparison with actual application of water in Ponnur channel command of Krishna Western Delta. *Andhra Agricultural Journal*. 50: 13-18.
46. **Srinivasulu, A.**, T.V. Satyanarayana, M. Ravi Kumar<sup>2</sup> and J.L.N. Sai Sudha<sup>2</sup>, 2003. Crop water requirements in comparison to actual water applied in some canal commands of Krishna Western Delta. *Journal of Agricultural Engineering*. 40(4): 43-50.
47. **Srinivasulu, A.**, H.V. Hema Kumar and T.V. Satyanarayana, 2003. Hydraulic performance of closed sub-surface drainage system at Konanki pilot area in NSP right canal command. *Journal of Research ANGRAU*. 31 (1): 19-25.

48. Hema Kumar, H.V., **A. Srinivasulu** and T.V. Satyanarayana, 2003. Role of sub-surface drainage systems in the control of water logging at Konanki pilot area. *Journal of Research ANGRAU*. 31(4): pp. 8-13.
49. **Srinivasulu, A.** and N.K. Tyagi, 2002. A root zone salinity model for planning irrigation with saline water. *Journal of Institution of Engineers (India), Agricultural Engineering Division*. 83: 28-32.
50. Radhakrishna Reddy<sup>2</sup>, K., P. Sridevi<sup>2</sup>, **A. Srinivasulu** and T.V. Satyanarayana, 2002. Optimal allocation of land and water resources – a linear programming approach. *Andhra Agricultural Journal*, 49(1&2): 102-108.
51. **Srinivasulu, A.** and N.K. Tyagi, 2001. Crop-water-salinity production functions for planning saline water use. *Journal of Institution of Engineers (India), Agricultural Engineering Division*. 82: 1-4.
52. **Srinivasulu, A.**, N.K. Tyagi and K.N. Shukla, 1997. Conjunctive use of water resources in saline groundwater basins: a management model. *ICID Journal (continues as Irrigation and Drainage)*. 46(1): 65-84.

#### Conference Papers (Full length/proceedings papers) (27)

(<sup>1</sup>Post-Doc supervisee;   <sup>2</sup>Graduate/Undergraduate Student advisee/co-advisee   <sup>§</sup>Presenter)

1. DeLaune<sup>§</sup>, P., P. Mubvumba, **S. Ale** and E. Kimura. 2018. Effect of irrigation timing and conservation tillage on cotton production. *Beltwide Cotton Conferences*. 3-5 January 2018. San Antonio, TX.
2. **Ale<sup>§</sup>, S.**, J. Park<sup>1</sup>, J., and W.R. Teague. 2017. Simulated impacts of grazing management on restoration of key ecosystem services. *America's Grasslands Conference*. 14-16 November 2017. Fort Worth, TX. (Invited)
3. Adhikari<sup>1</sup>, P., **S. Ale<sup>§</sup>**, P.B. DeLaune and K. R. Thorp. 2016. Assessing the feasibility of growing cover crops in cotton production systems of the Texas Rolling Plains. *Beltwide Cotton Conferences*. 5-7 January 2016. New Orleans, LA.
4. Park<sup>1,§</sup>, J., **S. Ale** and W.R. Teague. 2015. Assessing the impacts of grazing management practices on watershed hydrology and water quality. *ASABE Annual Meeting Paper No. 152188726*. St. Joseph, MI: ASABE.
5. Modala<sup>2</sup>, N.R., **S. Ale<sup>§</sup>**, N. Rajan, K. R. Thorp and C. Munster. 2015. Simulating the impacts of future climate variability and change on cotton production in the Texas Rolling Plains. *Beltwide Cotton Conferences*. 5-7 January 2015. San Antonio, TX.
6. Moriasi<sup>§</sup>, D.N., P.H. Gowda, J.G. Arnold, D.J. Mulla, and **S. Ale**, 2012. Evaluation of revised subsurface tile drainage algorithms in SWAT for a cold climate. *International SWAT conference*, 16-20 July 2012, New Delhi, India.
7. Movva, R., S.V. Tammineedi, Y.R. Kaluvai and **S. Ale<sup>§</sup>**, 2012. Experiences from subsurface drainage technology pilot areas of Andhra Pradesh. *ASABE Annual Meeting Paper No. 121341043*. St. Joseph, MI: ASABE.
8. **Ale<sup>§</sup>, S.**, L. Bowling, M. Youssef, S. Brouder, and J. Frankenberger, 2010. Potential watershed nitrate load reduction with drainage water management under varied

- implementation options. *9<sup>th</sup> International Drainage Symposium (17<sup>th</sup> CIGR World Congress)*, Quebec City, Canada, Paper No. 100137.
9. Ale<sup>§</sup>, S., B.S. Naz and L.C. Bowling, 2007. Mapping of tile drains in Hoagland watershed for simulating the effects of drainage water management, *ASABE Annual Meeting Paper* No. 072144. St. Joseph, MI: ASABE.
  10. Prasad<sup>§</sup>, P.R.K., D. Srinivas, T.V. Satyanarayana, S. R. Chandra, G. S. Rao, B. M. Rao, Ale, S., 2007. Reclamation of saline and waterlogged soils in Mutluru channel command of Krishna western delta, Andhra Pradesh, India. *4<sup>th</sup> International Conference on Irrigation and Drainage*. Sacramento, USA.
  11. Ale<sup>§</sup>, S., L. C. Bowling, S. M. Brouder and J.R. Frankenberger, 2006. Simulating the effects of drainage water management using DRAINMOD. *ASABE Annual Meeting Paper* No. 062313. St. Joseph, Mich.: ASABE.
  12. Satyanarayana<sup>§</sup>, T.V. and A. Srinivasulu, 2005. Successful pipe drainage technology for reclamation of water logged salt affected lands in Krishna Western Delta of AP, India. *International Agricultural Engineering Conference*, AIT, Bangkok, Thailand.
  13. Srinivasulu, A., T.V. Satyanarayana<sup>§</sup> and H.V. Hema Kumar, 2003. Subsurface drainage for the control of water logging in a pilot area in Nagarjunasagar right canal command in south India. *9<sup>th</sup> International Drainage Workshop* Paper No. 006. Utrecht, The Netherlands.
  14. Srinivasulu<sup>§</sup>, A., M. Ravikumar<sup>2</sup>, T.V. Satyanarayana and J.L.N. Sudha<sup>2</sup>, 2003. Comparison of crop water requirement and actual water applied in Krishna Western Delta in Andhra Pradesh. In: Procs. of '*International Conference on Water and Environment*', Bhopal, India Vol. I (Watershed Hydrology) pp. 75-83.
  15. Srinivasulu<sup>§</sup>, A., T.V. Satyanarayana, H.V. Hema Kumar and M. Raghu Babu, 2003. Performance evaluation of drainage systems at Konanki and Uppugunduru pilot areas of Indo-Dutch Network Project, Bapatla. In: Procs. of Workshop on '*Drainage and Water Management for the Control of Salinity and Water Logging in Irrigated Agricultural Lands*', Hyderabad, India. pp. 23-29
  16. Srinivasulu<sup>§</sup>, A., T.V. Satyanarayana, G.V. Lakshmi, M. Ratnam, C.V. Hanumanthaiah and H.V. Hema Kumar, 2003. Farmers' initiative for subsurface drainage to combat salinity problem. In: Procs. of Workshop on '*Drainage and Water Management for the Control of Salinity and Water Logging in Irrigated Agricultural Lands*', Hyderabad, India. pp. 103-106.
  17. Srinivasulu<sup>§</sup>, A., G.V. Lakshmi, M. Ratnam and T.V. Satyanarayana, 2002. Subsurface drainage for the reclamation of water logged saline lands in canal commands of Andhra Pradesh. In: Procs. of International Conference on '*Hydrology and Water Management*', Hyderabad, India Vol. I pp. 695-703.
  18. Srinivasulu<sup>§</sup>, A., H.V. Hema Kumar, T.V. Satyanarayana and M. Raghu Babu, 2002. Performance of drainage systems at Uppugunduru pilot area in Krishna Western Delta. In: Souvenir of the Seminar on '*Globalization – Challenges and Opportunities to Agricultural Engineering*', Bapatla, India. pp. 81-82.

19. Hema Kumar<sup>§</sup>, H.V., **A. Srinivasulu** and T.V. Satyanarayana, 2002. Effect of drain spacing and envelope material on water table fluctuations and drain discharges. In: Souvenir of the Seminar on ‘*Globalization – Challenges and Opportunities to Agricultural Engineering*’, Bapatla, India. pp. 83-84.
20. Satyanarayana<sup>§</sup>, T.V., H.V. Hema Kumar and **A. Srinivasulu**, 2002. A case study of subsurface drainage system performance in relation to envelope materials and spacings. In: Proc. of 36<sup>th</sup> Annual Convention of the Indian Society of Agricultural Engineers, Kharagpur, India.
21. Satyanarayana<sup>§</sup>, T.V., **A. Srinivasulu** and H.V. Hema Kumar, 2001. Successful drainage pilot in Nagarjunasagar project right canal command in India – A Case Study. In: Procs. of 1st Asian Regional Conference of ICID, Seoul, Korea.
22. **Srinivasulu, A.**, T.V. Satyanarayana<sup>§</sup> and H.V. Hema Kumar, 2001. Performance evaluation of closed subsurface drainage system in a pilot area in NSP canal command. In: Proc. of 35<sup>th</sup> Annual Convention of the Indian Society of Agricultural Engineers, Bhubaneswar, India.
23. Hema Kumar, H.V., T.V. Satyanarayana<sup>§</sup>, **A. Srinivasulu** and G. Aravind Reddy, 2001. Drainage investigations for the design of subsurface drainage system at Konanki pilot area in Prakasham district of Andhra Pradesh. In: Proc. of 35<sup>th</sup> Annual Convention of the Indian Society of Agricultural Engineers, Bhubaneswar, India.
24. Vengaiah, P.C.<sup>2,§</sup>, **A. Srinivasulu** and M. Raghu Babu, 2001. Study of infiltration characteristics of soils at Konanki and Uppugunduru operational research project sites. In: Proc. of 6<sup>th</sup> National Seminar of Indian Society of Coastal Agricultural Research, Hyderabad, India.
25. Vengaiah, P.C.<sup>2, §</sup>, M. Raghu Babu and **A. Srinivasulu**, 2001. Soil hydraulic conductivity studies at Uppugunduru operational research project site. In: Proc. of 6<sup>th</sup> National Seminar of Indian Society of Coastal Agricultural Research, Hyderabad, India.
26. **Srinivasulu<sup>§</sup>, A.**, M. Kalyan Kumar<sup>2</sup>, L. Sreedhar<sup>2</sup>, P.D.P. Rao<sup>2</sup> and D.A. Rao, 1999. Performance evaluation of bi-wall drip irrigation system. In: Proc. of National Seminar on ‘*Problems and Prospects of Micro-Irrigation – A Critical Appraisal*’, Bangalore, India. pp. 120-124.
27. **Srinivasulu<sup>§</sup>, A.**, K. Yella Reddy and D. Appa Rao, 1994. Design and evaluation of an efficient foot valve. In: Proc. of National Seminar on ‘*Conservation of Energy in Agricultural Pumping Systems*’, Hyderabad, India. pp. B1-B11.

#### Conference Papers (Abstracts/Posters/Presentations) (49)

(<sup>1</sup>Post-Doc supervisee; <sup>2</sup>Graduate/Undergraduate student advisee/co-advisee; <sup>§</sup>Presenter)

1. **Ale<sup>§</sup>, S.**, N. Omani<sup>1</sup>, J.P. Bodovsky, P. Adhikari, and K. R. Thorp. 2018. Water use efficiency and cotton yield as affected by irrigation termination dates. *Beltwide Cotton Conferences*. 3-5 January 2018. San Antonio, TX.
2. Kothari<sup>2,§</sup>, K., **S. Ale**, J.P. Bordovsky, G. Hoogenboom and C.L. Munster. 2017. Assessment of climate change impacts and evaluation of adaptation strategies for grain

- sorghum and cotton production in the Texas High Plains. *American Geophysical Union Fall Meeting*. 11-15 December, New Orleans, LA. (Kothari received a travel grant).
3. Ale<sup>§</sup>, S., P. Adhikari, N. Omani<sup>1</sup>, P.B. DeLaune, K.R. Thorp and E.M. Barnes. 2017. Simulated effects of winter wheat cover crop on soil water balances, soil quality and yield of subsequent cotton crop. *ASABE Annual Meeting Paper* No. 1701253. St. Joseph, MI: ASABE.
  4. Kothari<sup>2,§</sup>, K., S. Ale, J.P. Bordovsky, K.R. Thorp, D.O. Porter and C.L. Munster. 2017. Assessing the impacts of historic and future climate variability on grain sorghum production in the Texas High Plains. *ASABE Annual Meeting Paper* No. 1701403. St. Joseph, MI: ASABE. (Kothari received a travel grant and her presentation was selected as an outstanding NRES graduate student oral presentation)
  5. Garibay<sup>2,§</sup>, V., S. Ale, D. Gitz and C.L. Munster. 2017. Evaluation of the DSSAT CSM CROPGRO-Cotton module for the Texas High Plains using in-season data. *ASABE Annual Meeting Paper* No. 1700755. St. Joseph, MI: ASABE. (Garibay received a travel grant)
  6. Ale<sup>§</sup>, S., P. Adhikari<sup>1</sup>, P.B. DeLaune, K. R. Thorp and E.M. Barnes. 2017. Determining ideal winter wheat cover crop termination dates in cotton production systems of the Texas Rolling Plains. *Beltwide Cotton Conferences*. 4-6 January 2017. Dallas, TX.
  7. Sharma<sup>§</sup>, S., N. Rajan, K. Casey, S. Ale, R.W. Jessup and S. Maas. 2017. Inter-annual carbon, water and energy exchange of irrigated and dryland cotton in the Texas High Plains. *Beltwide Cotton Conferences*. 4-6 January 2017. Dallas, TX.
  8. Ale<sup>§</sup>, S., Y. Chen<sup>2</sup> and N. Rajan. 2016. Implications of Biofuel-Induced Land Use Change and Management on Irrigated Agriculture in the Texas High Plains. *American Geophysical Union Fall Meeting*. 14-18 December, San Francisco, CA.
  9. Ale<sup>§</sup>, S., Y. Chen<sup>2</sup> and N. Rajan. 2016. Assessing the feasibility of growing perennial grasses for bioenergy production in the Texas High Plains under declining groundwater availability for irrigation. *ASABE Annual Meeting Paper* No. 162462375. St. Joseph, MI: ASABE.
  10. Park<sup>1</sup>, J., S. Ale<sup>§</sup> and W.R. Teague. 2016. Assessing the impacts of future climate change on watershed hydrology and water quality under different grazing management practices. *ASABE Annual Meeting Paper* No. 162462572. St. Joseph, MI: ASABE.
  11. Chen<sup>2,§</sup>, Y., S. Ale, and N. Rajan. 2016. Modeling the effects of land use change from cotton (*Gossypium hirsutum* L.) to perennial bioenergy grasses on watershed hydrology and water quality under changing climate. ASA, CSSA, and SSSA 2016 Annual Meetings, November 6-9, Phoenix, AZ.
  12. Chen<sup>2,§</sup>, Y., N. Rajan, S. Sharma, and S. Ale. 2016. Using eddy covariance data for calibrating hydrology model for assessing land use change implications. ASA, CSSA, and SSSA 2016 Annual Meetings, November 6-9, Phoenix, AZ.
  13. Ale<sup>§</sup>, S., P. H. Gowda, D.J. Mulla, D.N. Moriasi and M.A. Youssef. 2016. Modeling the effects of climate variability, nitrogen fertilizer application rate and drainage system configuration on nitrate-nitrogen losses in tile flow. *International Drainage Symposium*. 6-9 September, Minneapolis, MN.

14. Chen<sup>2,§</sup>, Y., **S. Ale**, and N. Rajan. 2016. Land use change from cotton to perennial bioenergy grasses in the Texas High Plains: Implications on water and nitrogen balances. *5<sup>th</sup> Annual Student Water Conference*. 24-25 March 2016. Oklahoma State University, Stillwater, OK. (Chen received \$500 Travel Grant).
15. Adhikari<sup>1,§</sup>, P., **S. Ale**, J. P. Bordovsky, K. R. Thorp and N.R. Modala<sup>2</sup>. 2016. Assessing the impacts of future climate change on cotton yields and water use in the Texas High Plains. *Ogallala Aquifer Program Workshop*. 9-10 March 2016. Amarillo, TX.
16. Modala<sup>2</sup>, N.R., **S. Ale**<sup>§</sup>, and C. Munster. 2016. Spatial variability in projected future climate across the Texas High Plains. *Ogallala Aquifer Program Workshop*. 9-10 March 2016. Amarillo, TX.
17. Chen<sup>2,§</sup>, Y., **S. Ale**, and N. Rajan. 2016. Assessing the impacts of land use change from cotton to cellulosic bioenergy crops on watershed hydrology and water quality in the Texas High Plains. *Southern Branch of ASA Annual meeting*. 7-9 February, San Antonio, TX (Chen won third prize in graduate student poster competition).
18. **Ale**<sup>§</sup>, **S.**, J. Park<sup>1</sup>, and W.R. Teague. 2015. Comparison of the performances of APEX and SWAT models in simulating the impacts of alternate grazing management practices on hydrology and water quality. *American Geophysical Union Fall Meeting*. 14-18 December, San Francisco, CA.
19. Chen<sup>2,§</sup>, Y., **S. Ale**, and N. Rajan. 2015. Assessing the impacts of land use change from cotton to perennial bioenergy grasses on hydrological fluxes and water quality in a semi-arid agricultural watershed using the APEX Model. *American Geophysical Union Fall Meeting*. 14-18 December, San Francisco, CA.
20. Adhikari<sup>1,§</sup>, P., **S. Ale**, and P. DeLaune. 2015. Effect of tillage and cover crops on soil macroporosity and hydraulic conductivity. Annual Meetings, Soil Science Society of America. November 15-18, Minneapolis, MN.
21. Rajan<sup>§</sup>, N., A. Attia, **S. Ale**, and S. Maas. 2015. Comparison of simulated cotton evapotranspiration with eddy covariance measurements. Annual Meetings, American Society of Agronomy. November 15-18, Minneapolis, MN.
22. Chen<sup>2</sup>, Y., **S. Ale**<sup>§</sup>, and N. Rajan. 2015. Assessing the influence of climate variability on land use change from cotton to perennial bioenergy grasses: implications on watershed hydrology and water quality. *International SWAT conference*. 14-16 October 2015. Purdue University, West Lafayette, IN.
23. **Ale**<sup>§</sup>, **S.**, P. Adhikari<sup>1</sup> and N.R. Modala<sup>2</sup>. 2015. Simulating the effects of irrigation and crop management practices on soil profile nitrate levels and nitrate leaching to groundwater. *ASABE Annual Meeting Paper No. 152188750*. St. Joseph, MI: ASABE.
24. Park<sup>1,§</sup>, J., **S. Ale**, W.R. Teague and J. Jeong. 2015. Evaluating the landscape scale impacts of using traditional and multi-paddock grazing on runoff, sediment and nutrient losses. *ASABE Annual Meeting Paper No. 152188740*. St. Joseph, MI: ASABE.
25. Daggupati, P., **S. Ale**<sup>§</sup>, N. Pai, R. Zeckoski, J. Jeong, P.B. Parajuli, M.A. Youssef, D. Saraswat and K.R. Douglas-Mankin. 2014. Calibration and validation strategies for hydrological and water quality modeling. *Annual Meeting Paper No. 141914028*. St. Joseph, MI: ASABE (**Invited**).

26. Saraswat, D.<sup>§</sup>, N. Pai, J.R. Frankenberger, **S. Ale**, P. Daggupati, K.R. Douglas-Mankin and M.A. Youssef. 2014. Documentation and reporting procedures for hydrologic and water quality models. *Annual Meeting Paper* No. 141914000. St. Joseph, MI: ASABE (**Invited**).
27. Modala<sup>2,§</sup>, N.R. and **S. Ale**. 2014. Texas Plains climate change interactive GIS web application. *ESRI International User Conference*. 20-24 July 2014. San Diego, CA.
28. Moriasi<sup>§</sup>, D.N., P.H. Gowda, J.G. Arnold, D.J. Mulla, **S. Ale**, J.L. Steiner and M. D. Tomer 2014. New SWAT tile drain equations: Modifications, calibration, validation and application. 69<sup>th</sup> Soil and Water Conservation Society International Annual Conference. 27-30 July 2014. Lombard, IL.
29. **Ale**<sup>§</sup>, **S.** and S. Chaudhuri<sup>1</sup>. 2013. Groundwater resources and associated environmental issues in Texas: A Changing Scenario. *ASABE Annual Meeting Paper* No. 131618351. St. Joseph, MI: ASABE.
30. Modala<sup>2,§</sup>, N.R., **S. Ale**, N. Rajan, K. R. Thorp and C. Munster. 2013. Studying the effects of climate change on cotton production in the Texas High Plains using the DSSAT-CROPGRO-Cotton model. *ASABE Annual Meeting Paper* No. 131612145. St. Joseph, MI: ASABE.
31. Chaudhuri<sup>1,§</sup>, S. and **S. Ale**. 2013. Regional trends in groundwater levels and quality as affected by irrigational use in the Southern High Plains of Texas. *ASABE Annual Meeting Paper* No. 131597820. St. Joseph, MI: ASABE.
32. Rajan, N.<sup>§</sup>, S. J. Maas, **S. Ale**, and K.D. Casey. 2013. Impacts of biofuel induced land use change on energy, water, carbon and greenhouse gas balances of the Southwest U.S. cotton belt region. The Association for the Advancement of Industrial Crops Annual Meeting, September 13-19, Washington D.C.
33. Chaudhuri<sup>1,§</sup>, S., **S. Ale**, P.H. Gowda, and F.H. Jaber. 2012. Spatio-temporal characterization of groundwater resources in north central Texas. *ASABE Annual Meeting Paper* No. 121338211. St. Joseph, MI: ASABE.
34. Modala<sup>2,§</sup>, N.R., **S. Ale**, S. Nair, C. Munster and N. Rajan, 2012. Evaluation of irrigation strategies for the Texas Rolling Plains and the High Plains under projected future climate scenarios using DSSAT model. *ASABE Annual Meeting Paper* No. 121338212. St. Joseph, MI: ASABE.
35. **Ale**<sup>§</sup>, **S.**, P.H. Gowda, D.J. Mulla and D. N. Moriasi. 2012. Comparative performance of DRAINMOD and ADAPT models in predicting nitrate-N losses through tile drainage systems in southern Minnesota. *ASABE Annual Meeting Paper* No. 121338210. St. Joseph, MI: ASABE.
36. Bowling<sup>§</sup>, L., S. Rutkowski, **S. Ale** and K. Cherkauer. 2012. Agricultural drainage and hydrologic variability in the US Corn Belt. *International Annual Meetings*, American Society of Agronomy. 21-24 October, Cincinnati, OH.
37. Bowen<sup>§</sup>, G. J., C.D. Kennedy, C. Bataille, Z. Liu, **S. Ale**, J. VanDeVelde, C. R. Roswell, L. C. Bowling. 2012. Chemical tracers illustrate pathways of solute discharge from artificially drained agricultural watersheds. *American Geophysical Union Fall Meeting*, 3-7 December, San Francisco, CA.



38. Ale<sup>§</sup>, S., S. Chaudhuri, P.B. DeLaune, N. Rajan and P.H. Gowda. 2011. Evaluation of strategies to improve groundwater quality in the Texas Rolling Plains. *American Geophysical Union Fall Meeting*. 5-9 December, San Francisco, CA.
39. Ale<sup>§</sup>, S., L.C. Bowling, I. Chaubey and D. Moriasi. 2011. Prediction of nitrate losses from a subsurface drained agricultural watershed in Indiana using SWAT. *ASABE Annual Meeting Paper* No. 1111273. St. Joseph, MI: ASABE.
40. Rajan<sup>§</sup>, N., S. Ale and P. B. DeLaune. 2011. On-farm evaluation of irrigation management options for cotton in the Texas Rolling Plains. *International Annual Meetings*, Amer. Soc. Agronomy. October 16 - 19, San Antonio, TX.
41. Mohan Rao<sup>2</sup>, B.V., M. Raghu Babu, S. Ale<sup>§</sup>, and T.V. Satyanarayana. 2011. Field evaluation of DRAINMOD-S for a salt affected soil in Krishna western delta, India. *ASABE Annual Meeting Paper* No. 1110629. St. Joseph, MI: ASABE.
42. Ale, S, L.C. Bowling<sup>§</sup>, and P.R. Owens. 2011. Spatial distribution of nitrate losses from subsurface drainage systems across Indiana. *National Water Conference*. Washington, D.C.
43. Ale, S. and L.C. Bowling<sup>§</sup>. 2010. Subsurface drainage contribution to streamflow in subsurface drained agricultural watersheds in Indiana. *AGU Fall Meeting*, San Francisco, CA.
44. Ale<sup>§</sup>, S. and L.C. Bowling. 2010. Subsurface drainage influence on streamflow characteristics in agricultural watersheds of Indiana. *Indiana Water Resources Association Spring Symposium*. West Lafayette, IN.
45. Ale, S. and L.C. Bowling<sup>§</sup>. 2010. Estimating potentially subsurface drained areas in Indiana and their influence on streamflow pattern. *National Water Conference*. Hilton Head, SC.
46. Ale<sup>§</sup>, S., L. Bowling, I. Chaubey, J. Frankenberger, K. Merriman, and P. Owens. 2009. Drainage water management impact on nitrate load from subsurface drainage systems in the Hoagland watershed in Indiana. *ASABE Annual Meeting Paper* No. 096895. St. Joseph, MI: ASABE.
47. Ale<sup>§</sup>, S., L.C. Bowling, M.A. Youssef and S.M. Brouder. 2008. Simulating the effects of fertilization and drainage water management on nitrogen loss to tile drains. *ASABE Annual Meeting Paper* No. 084014. St. Joseph, MI: ASABE.
48. Merriman<sup>§</sup>, K.R., I. Chaubey, S. Ale and L.C. Bowling. 2008. Quantification of nutrient dynamics in agricultural drainage ditches with BMPs in Hoagland ditch watershed in northern Indiana. *ASABE Annual Meeting Paper* No. 083530. St. Joseph, MI: ASABE.
49. Frankenberger<sup>§</sup>, J., E. Kladvko, L. Bowling, S. Brouder, J. Lowenberg-DeBoer, R. Adeuya, B. Carter, S. Ale, A. Nistor, and N. Utt. 2008. Drainage water management impacts on watershed nitrate load, soil quality, and farm profitability. *National Water Conference*, Sparks, NV.

#### Research/Extension/Technical Bulletins (6)

1. Hanumanthaiah, C.V., T.V. Satyanarayana, A. Srinivasulu, G.V. Lakshmi and M. Ratnam, 2003. Socio-economic, gender and cost-benefit aspects of subsurface drainage technology. Technical Bulletin No. 12. Indo-Dutch Network Project, Bapatla, India. p. 32

2. Satyanarayana. T.V., G.V. Lakshmi, C.V. Hanumanthaiyah, **A. Srinivasulu** and M. Ratnam, 2003. Feasible subsurface drainage strategies to combat water logging and salinity in irrigated agricultural lands in Andhra Pradesh. Technical Document. Indo-Dutch Network Project, Bapatla, India. p. 32
3. Satyanarayana. T.V., G.V. Lakshmi, **A. Srinivasulu**, C.V. Hanumanthaiyah, M. Ratnam, and H.V. Hema Kumar (Eds.) 2002. Drainage and water management for salinity control in canal commands – A comprehensive report on research achievements of Bapatla Network Center. Indo-Dutch Network Project, Bapatla, Andhra Pradesh. p. 130
4. **Srinivasulu, A.**, G.V. Lakshmi, M. Ratnam, T.V. Satyanarayana, C.V. Hanumanthaiyah, Ch. Ramesh Babu and H.V. Hema Kumar, 2002. *Uppu choudu mariyu uraka bhoomula punarudharanaku muruguneeti nirmulana mariyu neeti yajamanya paddatulu* (in Telugu, an Indian language. English translation: Drainage and water management practices for reclamation of saline and sodic soils). Technical Bulletin 9, Indo-Dutch Network Project, Bapatla, India. p. 32
5. Satyanarayana, T.V., H.V. Hema Kumar, M. Raghu Babu and **A. Srinivasulu** (Eds.) 2000. Design and construction of drainage systems at Konanki and Uppugunduru. Technical Bulletin No.3, Indo-Dutch Network Project, Bapatla, India. p. 30
6. Tyagi, N.K., **A. Srinivasulu**, Ambarish Kumar and K.C. Tyagi, 1995. Modeling conjunctive use of water resources: hydraulic and economic optimization. Research Bulletin No.6/95, Central Soil Salinity Research Institute, Karnal, India. p. 86

#### **Research Reports/ Edited Proceedings (14)**

1. **Ale, S.**, Bordovsky, J., Thorp, K. and Omani, N. 2018. Determining optimum irrigation termination periods for cotton production in the Texas High Plains using the DSSAT Cropping System Model. Final Project Report submitted to the Cotton Incorporated. January 2018.
2. Rajan, N., Maas, S., **Ale, S.** and Casey, K. Impacts of biofuel induced land use change on energy, water, carbon and greenhouse gas balances of the Southwestern U.S. Cotton Belt region. Final Project Report submitted to USDA-NIFA. September 2017.
3. Bordovsky, J., Wall, J., Porter, D., Biggers, K. and **S. Ale**. 2017. Development, Deployment, and Demonstration of the Dashboard for Irrigation Efficiency Management (DIEM). Final Project Report submitted to the Texas A&M Water Seed Grant program. September 2017.
4. **Ale, S.**, DeLaune, P.B., Thorp, K. and Adhikari, P. 2016 & 2017. Evaluating the feasibility of cover crops in the Texas Rolling Plains cotton production systems using the DSSAT Cropping System Model. Final Project Report submitted to the Cotton Incorporated. January 2016, 2017.
5. Bordovsky, J., Wall, J., Porter, D., Biggers, K. and **S. Ale**. 2015. Timely Management of Limited Irrigation Crops in Texas Using an Empirically-based Model and Innovative Information Dashboard Technology. Final Project Report submitted to the Texas A&M Water Seed Grant program. September 2015.
6. **Ale, S.**, Bordovsky, J., Rajan, N., Thorp, K., Adhikari, P. and Modala, N.R. 2015. Assessing the climate change impacts on cotton production in the Texas High Plains using

- the DSSAT CROPGRO-Cotton model. Final Project Report submitted to the Cotton Incorporated. January 2015.
7. **Ale, S.**, Rajan, N. and Thorp, K. 2014. Assessment of water requirements and development of irrigation management plans for cotton production in the Texas High Plains using the DSSAT CROPGRO-Cotton model. Final Project Report submitted to the Cotton Incorporated. January 2014.
  8. Rajan, N., **S. Ale**, and P. B. DeLaune. 2013. Demonstrating tools for improving on farm irrigation efficiency (TWDB Contract No. 1103581253). Final project report submitted to the Texas Water Development Board. p.91. [http://www.twdb.state.tx.us/publications/reports/contracted\\_reports/doc/1103581253.pdf](http://www.twdb.state.tx.us/publications/reports/contracted_reports/doc/1103581253.pdf) August 2013.
  9. Rajan, N., **S. Ale**, P. B. DeLaune, Q. Xue, and S. Maas. 2013. Development and evaluation of technologies for improving crop production and formulating decision management tools. Report submitted to the Texas AgriLife Research Cropping Systems Program.
  10. Naz, B.S., **S. Ale**, L.C. Bowling, and C. Johansen, 2009. Questions and Answers: Automated identification of tile drainage from remotely sensed data. Available online: <http://www.gisagmaps.com/about-tile-mapping/>
  11. **Srinivasulu, A.** and T.V. Satyanarayana (Eds.) 2003. Proceedings of the Workshop on Drainage and water management for the control of salinity and water logging in irrigated agricultural lands, Hyderabad, India. p. 116
  12. **Srinivasulu, A.** 2002. Salt and Water Balance Modeling of the Data from Konanki Pilot area using SALTMOD. Report on collaborative research at the International Institute for Land Reclamation and Improvement (ILRI), Wageningen, The Netherlands. p. 23.
  13. Murthy, N.R.K., B.V.S. Prasad and **A. Srinivasulu** (Eds.) 2002. Souvenir of the seminar on ‘Globalization–challenges and opportunities to agricultural engineering’, Bapatla, India. p. 95
  14. **Srinivasulu, A.** and T.V. Satyanarayana, 2001. Water Logging and soil salinity in Nagarjunasagar project right canal command – A status report. Indo-Dutch Network Project, Bapatla, Andhra Pradesh, India. p. 59

#### Popular Press Articles (15)

1. Ledbetter, K., and **S. Ale**. 2017. [Winter wheat feasible cover crop for Rolling Plains cotton](#). AgriLife Today. November 27, 2017.
2. Ledbetter, K., **S. Ale**, and W. R. Teague. 2017. [Runoff reduced, water retention increased by multi-paddock grazing](#). AgriLife Today. March 9, 2017.
3. Ledbetter, K., **S. Ale**, P. Adhikari, and J. Bordovsky. 2015. [High Plains cotton production can survive climate changes](#). AgriLife Today. November 14, 2015.
4. Ledbetter, K. F. Jaber, **S. Ale**, and L. Reagan. 2015. Rainwater Harvesting Workshop. AgriLife Today. May 27, 2015.
5. Ledbetter, K. and **S. Ale**. 2014. [AgriLife Research study identifies contributing factors to groundwater table declines](#). AgriLife Today. July 10, 2014.

6. Ledbetter, K., **S. Ale**, and S. Chaudhuri. 2014. [Distinct geographical pattern in Texas' Ogallala Aquifer water quality - southern region has growing concern.](#) AgriLife Today. March 20, 2014.
7. Ledbetter, K., **S. Ale**, and S. Chaudhuri. 2013. [Salinization of groundwater resources in Texas is a growing concern.](#) AgriLife Today. November 15, 2013.
8. Ledbetter, K., **S. Ale**, and S. Chaudhuri. 2013. [Groundwater challenges emerging around Dallas-Fort Worth metroplex.](#) AgriLife Today. April 9, 2013.
9. Ledbetter, K., **S. Ale**, and S. Chaudhuri. 2012. [Groundwater nitrate concentrations increasing in Rolling Plains.](#) AgriLife Today. June 12, 2012.
10. Ledbetter, K. and **S. Ale**. 2010. [Water quality, quantity will be focus for new AgriLife Research scientist.](#) AgriLife Today. December 21, 2010.
11. Satyanarayana, T.V., Subba Rao, G., Srinivasulu, A., Mukunda Rao, B. and Srinivas, D. 2004. "Samarthanga saguneeti viniyogam - avasyakatha" (in *Telugu*, an Indian language). Annadata Vol. 36, No. 6, pp. 18 -19.
12. Srinivasulu, A., Satyanarayana, T.V., Lakshmi, G.V., Hanumanthaiah, C.V. and Ratnam, M. 2004. "Uppu, Choudu, Uraka Bhoomula Punarudharanaku Muruguneeti Nirmulana Vyavasthalu" (in *Telugu*, an Indian language) Annadata Vol. 36, No. 4, pp. 4 -5.
13. Srinivasulu, A. and Singh, T.V.K. 1999. "Sprayerlu dustarla vadakamlo suchanalu" (in *Telugu*, an Indian language). Prajashakthi dated 05.05.1999.
14. Srinivasulu, A., 1998 "Vidyut motorla nirvahanalo melakuvalu" (in *Telugu*, an Indian language). Annadata, Vol.30, No.8, pp. 48 – 49.
15. Siva Rao, K.S.V.V., Srinivasulu, A., and Chandramouli, G. 1994. "Pumpsetla nirvahanalo melakuvalu" (in *Telugu*, an Indian language). Annadata (Bonus Book on Motors and Pump sets), Vol. 26, No.5, pp. 3 -8.

#### **Invited Talks/Presentations/Guest Lectures (14)**

1. Impacts of winter wheat cover crop on soil water availability for cotton in the Texas Rolling Plains. Invited presentation; Precision Cotton Researchers Meeting, Beltwide Cotton Conferences, Dallas, TX; January 4, 2017
2. Land use change from cotton to perennial bioenergy grasses in the Texas High Plains: Implications on water and nitrogen balances. Invited presentation; Indian Institute of Technology, Hyderabad, India; June 14, 2016.
3. Sustainable management of water resources on crop, pasture and grazing lands. Invited presentation; College of Agricultural Engineering, Sanga Reddy (Prof. Jayashankar Telangana State Agricultural University), India; June 14, 2016.
4. Impact of grazing management practices on water conservation, water quality and streamflow. Invited presentation; Canadian River Basins Advisory Committee Meeting; Amarillo, TX; April 19, 2016.
5. Spatio-temporal variability in groundwater levels and quality in Texas. Invited Presentation; Gateway Groundwater Conservation District; Quanah, TX; May 5, 2015.

6. Spatio-temporal variability of groundwater levels and quality in Texas. Invited presentation; Texas Section ASABE meeting; Victoria, TX; October 16, 2014.
7. Groundwater quality in the Red River Basin and Rolling Plains in Texas. Invited presentation; Regional Conference of the Red River Valley Association; Wichita Falls, TX; November 21, 2013.
8. Groundwater quality in the Ogallala aquifer region in Texas. Invited presentation; Ogallala Aquifer Program Workshop; Amarillo, TX; March 5, 2013.
9. Groundwater contamination by nitrate in Texas. Invited presentation; Fall seminar series organized jointly by the Dept. of Biological & Agricultural Engineering and Zachry Dept. of Civil Engineering, Texas A&M University; College Station, TX; September 12, 2012.
10. Shallow groundwater quality in the Canadian and Red River basins. Invited presentation; Red River Authority of Texas Basin Advisory Committee meeting; Amarillo, TX; March 20, 2012.
11. Influence of subsurface drainage on water quality and streamflow pattern in Indiana. Invited presentation; Hydraulics seminar series of the School of Civil Engineering, Purdue University; West Lafayette, IN; March 10, 2010.
12. Irrigation water management. Presentation at the training program for Tennessee National Guard Agricultural Development Team before their deployment to Afghanistan; Purdue University; West Lafayette, IN; February 13, 2009.
13. Subsurface drainage for the reclamation of waterlogged saline lands in canal commands of Andhra Pradesh. Invited Presentation; Indo-Dutch Network Project Workshop; Gujarat Agricultural University; Navsari, India; February 3, 2003.
14. Salt and water balance modeling of the data from Konanki pilot area in Nagarjunasagar project right canal command in India. Guest lecture; 40<sup>th</sup> International Course on Land Drainage (ICLD); Alterra-ILRI; Wageningen, The Netherlands; December 4, 2001.

### **Other Professional Activities**

1. Reviewed ~120 articles for ~30 journals.
2. Member, Organizing Committee, 10<sup>th</sup> International Drainage Symposium, 7-9 September 2016. Minneapolis, MN, USA.
3. Member, International Advisory Committee, International conference on “Sustainable Technologies for Intelligent Water Management”, 16-19 February 2018. Roorkee, India.
4. Member, Organizing Committee & Co-Chair, Local Arrangements Committee, ASABE Global Water Security Conference, 3-6 October 2018. Hyderabad, India.
5. Member, Organizing Committee, International Refresher Course on “Drainage and Irrigation for Sustainable Rural Development” jointly organized by Alterra-ILRI, The Netherlands and ANGRAU in Hyderabad, India.
6. Member, Editorial Board, Andhra Agricultural Journal, 2002-2003.
7. Officer-in-charge of Student Activities, College of Agricultural Engineering (ANGRAU), Bapatla, India (January 1994 to July 1995 and December 1998 to December 1999);

Agricultural Polytechnic (ANGRAU), Regional Agricultural Research Station, Palem, India (September 1995 to May 1997).

8. Officer-in-charge of Academic Matters, Agricultural Polytechnic (ANGRAU), Regional Agricultural Research Station, Palem, India (July 1997 to November 1998).

*Updated on March 23, 2018*