Srinivasulu Ale
Professor of Agrohydrology

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Google Scholar Research Gate

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

9/2022 – Present	Professor of Agrohydrology Texas A&M Agrilife Research, Vernon, TX Dept. of Biological & Agricultural Engineering, Texas A&M University
9/2016 – 8/2022	Associate Professor (Geospatial Hydrology) Texas A&M Agrilife Research, Vernon, TX Dept. of Biological & Agricultural Engineering, Texas A&M University
12/2010 – 8/2016	Assistant Professor (Geospatial Hydrology) Texas A&M Agrilife Research, Vernon, TX Dept. of Biological & Agricultural Engineering, Texas A&M University
5/2009 – 12/2010	Postdoctoral Research Associate (Watershed Hydrology) Dept. of Agronomy, Purdue University, West Lafayette, IN
6/2005 – 5/2009	Graduate Research Assistant (Ph.D. Agricultural & Biol. Engineering) Dept. of Agronomy, 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 (Soil & Water Engineering) Dept. of Agricultural Engineering, A.N.G. Ranga Agricultural University (ANGRAU), Andhra Pradesh, India
5/1992 – 8/1993	Project Associate (Agriculture & Rural Development) Administrative Staff College of India, Hyderabad, India

Research Interests

Hydrologic and environmental impacts of changes in land use and management; Crop water use efficiency and irrigation decision support tools; Climate change impacts on crop production and evaluation of adaptation strategies; Soil health and ecosystem services; Characterization of groundwater quantity and quality.

Honors and Awards

2021 Superior Paper Award, ASABE Journals
2021 Council for Agricultural Science and Technology (CAST) Educational Materials Award
2020 Outstanding Associate Editor, ASABE journals
2017, 2021 Certificate of Appreciation as an Associate Editor, ASABE journals
2014 Research Excellence Award, Biol. & Ag. Engineering, Texas A&M University.
2012 Outstanding Reviewer, Soil & Water Division, ASABE Journals.
2008 Outstanding Ph.D. Student, Ag & Biological Engineering, Purdue University, IN.
2003 Young Scientist Award (Gold medal), A.N.G Ranga Agricultural Univ., India.
1990-1992 United Nations Development Project (UNDP) fellowship (during M.S.).
1985-1989 Andhra Pradesh State Government Merit Scholarship (during B.S.).

Professional and Synergistic Activities

- Fellow, Indian Water Resources Society (IWRS); Indian Association of Hydrologists (IAH).
- Life Member, American Society of Agricultural and Biological Engineers (ASABE).
- Life Member, Indian Society of Agricultural Engineers (ISAE); Andhra Agricultural Union.
- Life Member, Association of Agricultural Scientists of Indian Origin (AASIO)
- Member, American Geophysical Union (AGU); International Association of Hydrological Sciences (IAHS); American Society of Agronomy (ASA); Soil Science Society of America (SSSA).
- Invited Member, Alpha Epsilon Agricultural Engineering Honor Society.
- Associate Editor, Natural Resources and Environmental Systems (NRES) Division, 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).
- Proposal Reviewer, USGS-NIWR 104(g) grant proposals (2014, 2016); USDA-Ogallala Aquifer Program proposals (2015, 2016, 2018); Southern SARE proposals (2019, 2020); Chilean FONDECYT grant proposal (2019); BARD proposal (2019); NSF Ad-hoc reviewer (2022).
- Chair, ASABE Annual International Meeting Technical Program (2022-2024).
- Vice-Chair, ASABE Annual International Meeting Technical Program (2020-2022).
- Member, ASABE Meetings Council (2020-2024).
- Chair (2020-2021), NRES-09 Forward Planning Committee, ASABE.
- Past-Chair (2020-2021), Chair (2019-2020), Vice-Chair (2018-2019) and Secretary (2017-2018); NRES Community, ASABE.
- Chair (2018-2019) and Vice-Chair (2017-2018); NRES-04 Program Committee, ASABE.
- Chair (2016-2018) & Vice-Chair (2014-2016); NRES-07 Nomenclature Committee, ASABE.
- Chair (2015-2017) and Vice-Chair (2013-2015); NRES-23 Drainage Group, ASABE.
- Chair, Nominating Committee, Texas Section ASABE (2020-2021).

- Past-Chair (2019-2020), Chair (2018-2019) and Chair-Elect (2017-2018); Texas Section ASABE.
- Vice-Chair (Program and Plans), Texas Section ASABE (2016-2017).
- Chair, Awards Committee, Texas Section ASABE (2015-2016).
- Vice-Chair (Continuing Education), Texas Section ASABE (2014-2015).
- Member, ASABE E-2050/5 Global Engagement/Global Conference Committee (2018-2020)
- Member, M-152 ADS/Hancor Soil & Water Engineering Award Committee (2020-2021)
- Member, NRES-06 Paper Awards Committee (2013-2015)
- Member, ASABE EP479 Standard Revision Committee (2011-2013)
- Member, ASABE Model Calibration and Validation Standards Process ad-hoc Committee (2012-2014).

Major Student & Mentee Recognitions

- Sayantan Samanta, Ph.D. student, Water Management & Hydrological Science, TAMU
  - 2022 TAMU Dissertation Fellowship
  - 2021-2022 USGS-TWRI Graduate Student Research Program Scholarship
  - Graduate Student Research Paper Award, 2nd place in Ph.D. category, Association of Agricultural, Biological & Food Engineers of Indian Origin (AABFEIO-ASABE), 2021
- Rene Francis Simbi Mvuyekure, Ph.D. student, Water Management & Hydrological Science, TAMU
  - TAMU HEEP Fellowship
- Qiong Su, Former Ph.D. student, Water Management & Hydrological Science, TAMU
  - 2021 Bill and Rita Stout International Graduate Student Achievement Award (Ph.D. category), Dept. of Biological & Agricultural Engineering, TAMU.
- Rene Francis Simbi Mvuyekure, Former M.S. student, Water Management & Hydrological Science, TAMU
  - Lechner Graduate Scholarship recipient, Texas A&M University, 2020
  - 2022 Bill and Rita Stout International Graduate Student Achievement Award (M.S. category), Dept. of Biological & Agricultural Engineering, TAMU
- Kritika Kothari, Former Ph.D. student, Biological & Agricultural Engineering, TAMU
  - 2021 ASABE Superior Paper Award
  - 2020 Texas A&M Distinguished Dissertation Award – Biological and Life Sciences
  - 2019 Graduate Student Research Paper Award, 1st place in Ph.D. category, Association of Agricultural, Biological & Food Engineers of Indian Origin (AABFEIO) of ASABE
  - Outstanding Oral Presentation in the Natural Resources & Environmental Systems category at the ASABE Annual International Meetings in Spokane, WA and Detroit, MI
  - 2019 Bill and Rita Stout International Graduate Student Achievement Award (Ph.D. category), Dept. of Biological & Agricultural Engineering, TAMU
- Yong Chen, Former Ph.D. student, Soil and Crop Sciences, TAMU
  - 2018 - Brock Faulkner Young Engineer of the Year, TX Section ASABE

  - 2016 - Special Achievement Award for Graduate Student Research, TAMU
  - 2016 - 3rd Prize, Poster competition, Southern ASA Meeting
- Naga Raghu Modala, Former Ph.D. student, Biological & Agricultural Engineering, TAMU
  - 2013 People's choice award for poster presentation, Water Daze conference, TAMU

Research Grants (26)

1. **Ale, S**., Singh, J. and Lewis, K. 2021. Assessing the effects of rye and mixed cover crops on soil water use and soil health in semi-arid irrigated cotton production systems. Cotton Incorporated. $20,000 (Jan-Dec 2022).
2. Lewis, K., Berthold, T., Wagner, K., Bell, J., DeLaune, P.B., McCallister, D.M., **Ale, S.,** Mirchi, A., Rocateli, A., McCarl., A., Bagnall, D., Keeling, W., Smith, G., Roquette, M., Smith, J., Gentry, T., Sharma, S., Wyatt, B., Gregory, L., Warren, J., Kimura, E., Maeda, M., Jilling, A., Byrd, S., Pinchak, W., Guerrero, B., Keeling, W., and Dunn, C. Sustainable agricultural intensification and enhancement through the utilization of regenerative agricultural management practices. USDA-NIFA Sustainable Agricultural Systems (SAS) program. $9,999,947 (2021-2026).
3. **Ale, S**., Teague, W.R., DeLaune, P.B., Wang, T., and Steffens, T. Enhancing soil ecosystem health and resilience through pasture cropping. USDA-NIFA Foundational Program. $499,992 (2021-2025).
4. **Ale, S**., Himanshu, S.K., Bell, J., Fan, Y., Bordovsky, J., and Gitz, D. Evaluation of efficient crop-growth-stage-based deficit irrigation strategies for cotton and grain sorghum production in the Texas High Plains. USDA-ARS Ogallala Aquifer Program, $35,000 (2020-2023).
5. **Ale, S**., Adams, C., Biggers, K., Wall, J., Kimura, E., and Fan, Y. Development and evaluation of a novel sensor- and crop-model based decision support tool for efficient irrigation management. Texas A&M Water Seed Grant Initiative. $276,474 (2020-2021).
6. Swanson, C., Stoleru, R., Fipps, G., and **Ale, S**. Creation of an AI-powered next generation home irrigation controller. Texas A&M Water Seed Grant Initiative. $318,284 (2020-2021).
7. **Ale, S**., DeLaune, P.B., and Himanshu, S.K. Evaluation of soil health benefits of cover crops in cotton production systems of the Texas Rolling Plains. Cotton Incorporated. $40,000 (2020-2021).
8. Gopal Naik, M., **Ale, S**., Gupta, H., Jaber, F., Lai, J.S., and Huang, J.C. Planning and development of climate resilient water sensitive urban designs: A case study of Hyderabad Metropolitan City. Scheme for Promotion of Academic and Research Collaboration (SPARC), A Government of India Initiative, INR 7,700,000 (2019-2022).
9. 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 (2018-2023).
10. Adams, C., Trostle, C., **Ale, S.**, DeLaune, P., Park, S., Hoogenboom, G., and Boote, K. Enhancing ecosystem services through integration of guar into wheat cropping systems of the Southern Great Plains. USDA-NIFA Foundational Program, $445,000 (2018-2023).

11. Gitz, D., Hudson, D., **Ale, S.**, Mauget, S., Lascano, R., and Goebel, T. Assessment of potential yield increases and economic risk avoidance through management of soil hydrologic processes in semi-arid rain fed systems. USDA-ARS Ogallala Aquifer Program, $110,822 (2018-2022).
12. 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, $499,985 (2017-2022).
13. 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).
14. **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. $42,000 (2017-2019).
15. **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).
16. Bordovsky, J. P., Wall, J. A., Porter, D., Biggers, K. and **Ale, S**. Development, deployment and demonstration of the Dashboard for Irrigation Efficiency Management (DIEM). Texas A&M Water Seed Grant. $258,857 (2015-2017).
17. **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).
18. 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).
19. 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).
20. Rajan N. and **Ale, S.** Testing of cotton crop models for evapotranspiration and crop water use estimation. Cotton Incorporated. $10,000 (2015).
21. 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).
22. **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).
23. **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).

24. 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 (2011-2014).
25. Rajan, N., **Ale, S.** and DeLaune, P.B. Demonstrating tools for improving on-farm irrigation efficiency. Texas Water Development Board, $77,208 (2011-2012).
26. 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).

Teaching Experience

- Member, Graduate Faculty, Texas A&M University, College Station, TX.
- Member, Water Faculty, Water Management & Hydrological 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.
- Member, Graduate Faculty, Indian Institute of Technology, Roorkee, India.
- Adjunct Faculty, Professor Jayashankar Telangana State Agricultural University, Hyderabad, India

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

1. Gave a lecture on 'Calibration and validation approaches for hydrologic and water quality models' for 'Advanced topics in Biological Engineering - Modeling small watersheds (BENG 500V)' graduate course at the University of Arkansas, Fayetteville in Fall 2020.
2. Co-Instructor, Integrated Watershed Management, Graduate level course in the Dept. of Civil Engineering, Osmania University, Hyderabad, India; Spring 2020. Offered as a part of SPARC project funded by the Government of India.
3. Gave lectures 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 and Spring 2018.
4. 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.
5. Served as a faculty advisor/co-advisor for five capstone project teams.

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

1. 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.
2. Taught 'Agricultural Drainage' chapter as a part of 'Environmental Hydrology (AGRY 399)' undergraduate course in Spring 2010.

3. 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. Bhupinder Singh, Post-Doc (Geospatial Hydrology); April 19, 2022 – present.
2. Dr. Jasdeep Singh, Post-Doc (Ag Water Management); September 9, 2020 – July 4, 2022.
3. Dr. Arun Bawa, Post-Doc (Ecosystem Modeling); June 9, 2021 – February 28, 2022.
4. Dr. Sushil Himanshu, Post-Doc (Geospatial Hydrology); Sep 20, 2018 – Aug 31,2021.
5. Dr. JungJin Kim, Post-Doc (Range Hydrology); September 7, 2017 – July 31, 2020.
6. Dr. Nina Omani, Post-Doc (Geospatial Hydrology), January 17, 2017 – October 4, 2017.
7. Dr. Jong-Yoon Park, Post-Doc (Range Hydrology); June 1, 2014 – October 3, 2016.
8. Dr. Pradip Adhikari, Post-Doc (Geospatial Hydrology); July 2, 2014 – August 16, 2016.
9. Dr. Sriroop Chaudhuri, Post-Doc (Geospatial Hydrology); August 2011 – April 2014.

Direction of graduate students

Degree	In progress		Graduated since initial appointment (2010)		Total	
	Chair or Co-chair	Member	Chair or Co-chair	Member	Chair or Co-chair	Member
M.S.	3	2	5	8	8	10
Ph.D.	3	3	4	7	7	10
Total	**6**	**5**	**9**	**15**	**15**	**20**

Service as Chair/Co-Chair on graduate student committees (15):

Current Students (6)

1. Sayantan Samanta; Degree: Ph.D. in Water Management & Hydrological Science, Texas A&M University; Research Area: Assessing ecosystem service benefits of improved soil

management practices at the field and watershed scales. Co-Chairs: C.L.S. Morgan and **S. Ale**. Expected graduation: December 2022.

2. Rene Francis Simbi Mvuyekure; Degree: Ph.D. in Water Management & Hydrological Science, Texas A&M University; Research Area: Assessing the impacts of regenerative agricultural practices on soil hydrologic function, soil health, and greenhouse gas emission and mitigation. Co-Chairs: **S. Ale** and R. Mohtar. Expected graduation: TBD.
3. Ali Akram Niazi (*Fulbright Scholar*); Degree: Ph.D. in Water Management & Hydrological Science, Texas A&M University; Research Area: Climate change impacts on water resources and agricultural water management. Co-Chairs: **S. Ale** and S. Calabrese. Expected graduation: TBD.
4. Hardev Singh; Degree: M.S. in Biological & Agricultural Engineering, Texas A&M University; Research Area: Quantification of ecosystem services provided by conservation agricultural practices. Co-Chairs: **S. Ale** and R. Mohtar. Expected graduation: TBD.
5. Nadeesha Dias (*Fulbright Scholar*); Degree: M.S. in Biological & Agricultural Engineering, Texas A&M University; Research Area: Water-energy-food nexus. Co-Chairs: R. Mohtar and **S. Ale** Expected graduation: TBD.
6. Montana Caise; M.Eng. in Biological & Agricultural Engineering, Texas A&M University; Co-Chairs: **S. Ale** and S. Calabrese. Expected graduation: TBD.

Graduated Students (9)

7. Rene Francis Simbi Mvuyekure; Degree: M.S. in Water Management & Hydrological Science, Texas A&M University; Thesis title: Evaluating optimum planting dates for guar and assessing ecosystem services through integration of guar into wheat systems. Co-Chairs: **S. Ale** and V.P. Singh. Graduated in August 2022.
8. Qiong Su; Degree: Ph.D. in Water Management & Hydrological Science, Texas A&M University; Dissertation title: Investigating the nexus of climate, energy, and water at decision-relevant scales. Co-Chairs: V.P. Singh and **S. Ale**. Graduated in December 2021.
9. Kritika Kothari; Ph.D. in Biological & Agricultural Engineering, Texas A&M University; Dissertation title: Assessing climate change adaptation strategies for major crops in Texas: A case study in two regions. Co-Chairs: **S. Ale** and Vijay Singh. Graduated in May 2019.
10. Abhinav Kandpal; M.Eng. in Biological & Agricultural Engineering, Texas A&M University; Co-Chairs: **S. Ale** and C.L. Munster. Graduated in May 2018.
11. Victoria Garibay, M.S. in Biological & 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.
12. Randhir 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.
13. 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: **S. Ale** and N. Rajan. Graduated in December 2016.

14. Naga Raghuveer Modala; Ph.D. in Biological & 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.
15. Shailee Jain; M.S. in Water Management & 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.

Service as a Member on graduate student committees (20):

Current Students (5)

1. Jeongwoo Han; Degree: Ph.D. in Biological & Agricultural Engineering, Texas A&M University; Research area: Impacts of Rossby Waves and Atmospheric Rivers on meteorological drought in the continental Unites States and drought forecasting using entropy spectral analysis. Expected graduation: August 2022.
2. Creighton Meyers; Degree: Ph.D. in Ecology and Conservation Biology, Texas A&M University; Research area: Prediction of future gradients in coastal temperature and salinity Expected graduation: TBD
3. Shubham Jain; Degree: Ph.D. in Water Management & Hydrological Science, Texas A&M University; Research area: Physically motivated, empirically based approaches for prediction of flow duration curves at ungauged catchments. Expected graduation: TBD.
4. Raul Sebastian Martinez; Degree: M.S. in Biological & Agricultural Engineering, Texas A&M University; Research area: Variety trial validation: A framework to incorporate on-farm data. Expected graduation: TBD.
5. Michelle Wood Ramirez; Degree: M.S. in Water Management & Hydrological Science, Texas A&M University; Research area: Bio-retention modeling. Expected graduation: TBD.

Graduated Students (15)

6. Rajan Shrestha; Degree: Ph.D. in Soil and Crop Sciences, Texas A&M University; Dissertation: Studies on agro-ecological performance and crop physiology of guar. Graduation: May 2022.
7. Fernando Jarrin Perez; Degree: Ph.D. in Biological & Agricultural Engineering, Texas A&M University; Dissertation: The fate of the Andean Paramos in the climate change era. A view from hydrological modeling. Graduation: May 2022.
8. Bala Sapkota; Degree: M.S. in Soil and Crop Sciences, Texas A&M University; Thesis: Plant population dynamics in cotton and remote sensing applications in cotton irrigation management. Graduation: May 2022.
9. Charles Schaub; Degree: M.W.M. in Water Management & Hydrological Science program, Texas A&M University; Research report: Water retention patterns within the soil column of a man-made prairie in Southeast Texas. Graduation: May 2022.

10. Yu Zhang; Degree: Ph.D. in Biological & Agricultural Engineering, Texas A&M University; Dissertation: Quantifying uncertainty of Probable Maximum Flood. Graduation: May 2021.
11. Kyungtae Lee; Degree: Ph.D. in Biological & Agricultural Engineering, Texas A&M University; Dissertation: Relationship between extreme precipitation and climatic cycles under climate change in Texas. Graduated in August 2020.
12. Duncan Kikoyo; Degree: Ph.D. in Biological & Agricultural Engineering, Texas A&M University; Dissertation: Inferences from a holistic hydro-economic valuation of water source protection benefits. Graduated in May 2020.
13. Samaneh Saadat; Degree: Ph.D. in Agricultural and Biological Engineering, Purdue University, West Lafayette, IN; Dissertation: Evaluation of hydrological processes and environmental impacts of free and controlled subsurface drainage. Graduated in Dec 2018.
14. Sanjay Kanwal; Degree: M.Eng. in Biological & Agricultural Engineering, Texas A&M University. Graduated in December 2018.
15. 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.
16. Abhishek Singh; M.S. in Biological & Agricultural Engineering, Texas A&M University; Thesis: Quantifying Uncertainty in Probable Maximum Precipitation. Graduated in December 2016.
17. Benjamin Jacobson; M.W.M. in Water Management & Hydrological Science, Texas A&M University; Presentation: Winery effluent and wastewater irrigation. Graduated in December 2016.
18. 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.
19. 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.
20. Marisa Bumguardner; M.S. in Water Management & 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: 1922; h-index: 26; i10-index: 47 as of September 6, 2022)

Refereed Journal Articles: **86** (+ 8 in review)

Invited Book Chapters: **3**

Conference Papers: **149** (31 full-length/proceedings papers and 118 abstracts/posters)

Popular press articles: **21**; Invited Talks/Presentations/Guest Lectures: **22**

Contract and Grant research reports: **14**; Other research/extension publications: **11**

Invited Book Chapters (3)

1. Jha[2], R., A. Pandey, and **S. Ale**. 2021. Performance evaluation of a minor of Upper Ganga canal system using geospatial and secondary data. In: Pandey, A., Chowdary, V.M., Behera, M.D., and Singh, V. (Eds.). Geospatial Technologies for Land and Water Resources. Springer Nature Switzerland AG.
2. **Ale, S.**, P.V. Femeena, S. Mehan, and R. Cibin. 2019. Environmental impacts of bioenergy crop production and benefits of multifunctional bioenergy systems. In: Pires, J.C., and Goncalves, A.L. (Eds.) Bioenergy with carbon capture and storage: nature and technology can help. Elsevier Publishing. pp. 195-217. doi.org/10.1016/B978-0-12-816229-3.00010-7
3. 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.org/10.1093/acrefore/9780199389414.013.270

Refereed Journal Articles – Under Review (8)

[[1]Post-Doc supervisee; [2]Graduate Student advisee (Chair/Co-Chair); [3]Graduate Student advisee (Committee member)]

1. Kim[1], J., **S. Ale**, U.P. Kreuter, W.R. Teague, S.J. DelGrosso, and S.L. Dowhower. 2022. Evaluating the impacts of alternative grazing management practices on soil carbon sequestration and soil health indicators. *Agriculture, Ecosystems and Environment*. Under Review.
2. Bawa[1], A., S. Samanta[2], S.K. Himanshu[1], J. Singh[1], J. Kim[1], T. Zhang, A. Chang, J. Jinha, P. DeLaune, J. Bordovsky, E. Barnes, and **S. Ale**. 2022. A support vector machine and image processing based approach for counting open cotton bolls and estimating lint yield from UAV imagery. *Computers and Electronics in Agriculture*. Under Review.
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Conference Papers (Full length/proceedings papers) **(31)**

[[1]Post-Doc supervisee; [2]Graduate Student advisee (Chair/Co-Chair); [3]Graduate Student advisee (Committee member); [§]Presenter]

1. **Ale, S.**, J. Kim[1], W.R. Teague, and T. Wang[§]. 2019. Simulated watershed-scale impacts of grazing management practices on streamflow characteristics and downstream flooding. *America's Grasslands Conference.* 20-22 August 2019. Bismarck, ND.

2. **Ale**[§], **S.**, S.K. Himanshu[1], N. Omani[1], J.P. Bordovsky, K.R. Thorp, and E.M. Barnes. 2019. Determining ideal irrigation termination dates under deficit irrigation strategies. *Beltwide Cotton Conferences.* 8-10 January 2019. New Orleans, LA.
3. Himanshu[1], S.K., **S. Ale**[§], J.P. Bordovsky, and E.M. Barnes. 2019. Assessment of deficit irrigation strategies for cotton production in the Texas High Plains. *Beltwide Cotton Conferences.* 8-10 January 2019. New Orleans, LA.
4. DeLaune[§], 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.
5. **Ale**[§]**, S.**, J. Park[1], 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)
6. Bordovsky[§], J.P., B. Stoker, P. Bilnoski, C. Garcia, D. Porter, **S. Ale**, K. Biggers, and J. Wall. Dashboard for irrigation efficiency management (DIEM). Proceedings of the 2017 Irrigation Association Technical Conference, Orlando, Florida, November 6-10, 2017. Available from the Irrigation Association, Fairfax, Virginia.
7. Adhikari[1], P., **S. Ale**[§], 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.
8. Park[1,§], 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.
9. Modala[2], N.R., **S. Ale**[§]**,** 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.
10. Moriasi[§], 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.
11. Movva, R., S.V. Tammineedi, Y.R. Kaluvai and **S. Ale**[§]**,** 2012. Experiences from subsurface drainage technology pilot areas of Andhra Pradesh. *ASABE Annual Meeting Paper* No. 121341043. St. Joseph, MI: ASABE.
12. **Ale**[§]**, S.**, L. Bowling, M. Youssef, S. Brouder, and J. Frankenberger, 2010. Potential watershed nitrate load reduction with drainage water management under varied implementation options. *9th International Drainage Symposium (17th CIGR World Congress)*, Quebec City, Canada, Paper No. 100137.
13. **Ale**[§]**, 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.
14. Prasad[§], 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. *4th International Conference on Irrigation and Drainage*. Sacramento, USA.

15. **Ale§, 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.
16. Satyanarayana§, T.V. and **A. Srinivasulu,** 2005. Successful pipe drainage technology for reclamation of waterlogged salt affected lands in Krishna Western Delta of AP, India. *International Agricultural Engineering Conference*, AIT, Bangkok, Thailand.
17. **Srinivasulu, A.**, T.V. Satyanarayana§ 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. *9th International Drainage Workshop* Paper No. 006. Utrecht, The Netherlands.
18. **Srinivasulu§, A.**, M. Ravikumar[2], T.V. Satyanarayana and J.L.N. Sudha[2], 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.
19. **Srinivasulu§, 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
20. **Srinivasulu§, 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.
21. **Srinivasulu§, A.**, G.V. Lakshmi, M. Ratnam and T.V. Satyanarayana, 2002. Subsurface drainage for the reclamation of waterlogged 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.
22. **Srinivasulu§, 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.
23. Hema Kumar§, 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.
24. Satyanarayana§, 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 *36th Annual Convention of the Indian Society of Agricultural Engineers*, Kharagpur, India.

25. Satyanarayana[§], 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.
26. **Srinivasulu, A.**, T.V. Satyanarayana[§] and H.V. Hema Kumar, 2001. Performance evaluation of closed subsurface drainage system in a pilot area in NSP canal command. In: Proc. of *35th Annual Convention of the Indian Society of Agricultural Engineers*, Bhubaneshwar, India.
27. Hema Kumar, H.V., T.V. Satyanarayana[§], **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 *35th Annual Convention of the Indian Society of Agricultural Engineers*, Bhubaneshwar, India.
28. Vengaiah, P.C.[2,§], **A. Srinivasulu** and M. Raghu Babu, 2001. Study of infiltration characteristics of soils at Konanki and Uppugunduru operational research project sites. In: Proc. of *6th National Seminar of Indian Society of Coastal Agricultural Research*, Hyderabad, India.
29. Vengaiah, P.C.[2, §], M. Raghu Babu and **A. Srinivasulu,** 2001. Soil hydraulic conductivity studies at Uppugunduru operational research project site. In: Proc. of *6th National Seminar of Indian Society of Coastal Agricultural Research*, Hyderabad, India.
30. **Srinivasulu[§], A.**, M. Kalyan Kumar[2], L. Sreedhar[2], P.D.P. Rao[2] 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.
31. **Srinivasulu[§], 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) **(118)**

[[1]Post-Doc supervisee; [2]Graduate Student advisee (Chair/Co-Chair); [3]Graduate Student advisee (Committee member); [§]Presenter]

1. Bawa[1, §], A., Samanta[2], S., Himanshu[1], S.K., Kim[1], J., Singh[1], J., **Ale, S.**, Chang, A., Jung, J., DeLaune, P.B., Bordovsky, J., Barnes, E.M. 2022. Support Vector Machine and Image Processing based Cotton Boll Counting Approach from UAV Imagery. *ASABE Annual International Meeting*, Houston, TX, July 17-20, 2022.
2. Samanta[2, §], S., Bawa[1], A., Singh[1], J., Mvuyekure[2], R.F.S., **Ale, S.**, DeLaune, P.B., Morgan, C.L.S. 2022. Evaluation of the effects of improved soil management practices on crop water stress in dryland cotton systems using Unpiloted Aerial Systems. *ASABE Annual International Meeting*, Houston, TX, July 17-20, 2022. (Poster)
3. Mvuyekure[2, §], R.F.S., **Ale, S.**, Himanshu[1], S.K., Boote, K.J., Shrestha[3], R., Adams, C.B., Hoogenboom, G., Trostle, C. 2022. Potential Impact of Climate Change on Guar Production: A Case Study from the Texas Rolling Plains. *ASABE Annual International Meeting*, Houston, TX, July 17-20, 2022. (Poster)

4. **Ale[§], S.**, Bawa[1], A., Dowhower, S., Singh[1], J., Singh[1], B., DeLaune, P.B., Teague, W.R. 2022. Baseline soil and vegetation measurements for investigating the soil health and ecosystem service benefits of pasture cropping. *ASABE Annual International Meeting*, Houston, TX, July 17-20, 2022. (Poster)
5. Samanta[2, §], S. **Ale, S.**, Morgan, C.L.S., Bagnall, D.K. 2022. Evaluating the potential of conservation tillage and cover crop practices in mitigating the negative effects of climate change on runoff and sediment losses. *ASABE Annual International Meeting*, Houston, TX, July 17-20, 2022.
6. Singh[1], J., **Ale[§], S.**, DeLaune, P.B., Barnes, E.M. 2022. Potential benefits and consequences of growing cool-season cover crops in Texas semi-arid cotton production systems. *ASABE Annual International Meeting*, Houston, TX, July 17-20, 2022.
7. Mvuyekure[2, §], R.F.S., **Ale, S.**, Himanshu[1], S.K., Boote, K.J., Shrestha[3], R., Adams, C.B., Hoogenboom, G., Trostle, C. 2022. Assessment of Ecosystem Services Rendered Through Integration of Guar into Wheat Cropping Systems of The Texas Rolling Plains Region. *ASABE Annual International Meeting*, Houston, TX, July 17-20, 2022.
8. Himanshu[1], S.K., **S. Ale**[§], J.M. Bell, Y. Fan, J.P. Bordovsky, D.C. Gitz, and D.K. Brauer. 2022. Simulating efficient crop-growth-stage-based variable deficit irrigation strategies for sustaining cotton production in the Texas High Plains. *Beltwide Cotton Conferences*, San Antonio, TX, January 4-6, 2022.
9. Singh[1, §], J., **S. Ale**, P.B. DeLaune, and E.M. Barnes. 2022. Assessing the impacts of cover crop termination dates on cotton yield in the Texas Rolling Plains. *Beltwide Cotton Conferences*, San Antonio, TX, January 4-6, 2022.
10. DeLaune[§], P.B., K.L. Lewis, **S. Ale**, and E. Kimura. 2022. Summary of cotton production under three long-term cover crop systems in the Texas Rolling Plains. *Beltwide Cotton Conferences*, San Antonio, TX, January 4-6, 2022.
11. Bawa[1, §], A., S. Samanta, S.K. Himanshu, J. Kim, J. Singh, **S. Ale**, A. Chang, J. Jung, J.P. Bordovsky, and E.M. Barnes. 2022. An image processing and machine learning-based method for counting cotton bolls from UAV imagery. *Beltwide Cotton Conferences*, San Antonio, TX, January 4-6, 2022.
12. Samanta[2, §], S., **Ale, S.**, Bagnall, D. K., Morgan, C. L. S., Black, M., & Woodward, R. T. 2021. Evaluating Downstream Impacts of Changes in Farm Tillage Management on Runoff, and Sediment and Nutrient Losses in a Texas Blackland Prairie Watershed. *ASA, CSSA, SSSA International Annual Meeting*, Salt Lake City, UT, Nov. 7-10, 2021.
13. Franzluebbers, A. J., Haney, R., Sintim, H., Roberts, T. L., Raper, T. B., Pieralisi, B., Morgan, G. D., McKnight, B., Maeda, M., Lewis, K. L., Howe, J. A., Heiser, J., Frame, W. H., Farmaha[§], B. S., Balkcom, K. S., Arnall, D. B., & **Ale, S**. 2021. Soil C and N Fractions and Residual Soil Nitrate to Predict Cotton Yield Response to Nitrogen. *ASA, CSSA, SSSA International Annual Meeting*, Salt Lake City, UT, Nov. 7-10, 2021.
14. **Ale[§], S**., Su, Q., Singh, J., Himanshu, S. K., Fan, Y., Stoker, B., Gonzalez, E., Sapkota, B., Adams, C. B., Biggers, K., Kimura, E., & Wall, J. 2021. Idcrop: An Irrigation Decision Support System for Conserving Resources and Optimizing Cotton Production. *ASA, CSSA, SSSA International Annual Meeting* g, Salt Lake City, UT, Nov. 7-10, 2021.

15. Singh[1, §], J., **Ale, S.**, DeLaune, P. B., Himanshu[1], S. K., & Barnes, E. M. 2021. Simulated Effects of Winter Cover Crops on Southern Great Plains Cotton Production. *ASA, CSSA, SSSA International Annual Meeting* Salt Lake City, UT, Nov. 7-10, 2021.
16. Himanshu[1], S. K., Simbi Mvuyekure[2], R. F., **Ale[§], S.**, Bell, J. M., Fan, Y., Kothari[2], K., Bordovsky, J. P., Gitz, D. C. III, & Brauer, D. K. 2021. Evaluating Crop-Growth-Stage-Based Variable Deficit Irrigation Strategies for Grain Sorghum Production in the Texas High Plains. *ASA, CSSA, SSSA International Annual Meeting*, Salt Lake City, UT, Nov. 7-10, 2021.
17. Sapkota[3, §], B., Adams, C. B., **Ale, S.**, Su[2], Q., & Rajan, N. 2021. Evaluating the Use of Pivot Irrigation System-Mounted Sensors for Irrigation Management in Cotton. *ASA, CSSA, SSSA International Annual Meeting,* Salt Lake City, UT, Nov. 7-10, 2021.
18. Feng[§], H., D.A. Hennessy, S. Ale. J. Park, W.R. Teague, T. Wang. 2021. Rotational Grazing Management Practices: An Assessment of Economic and Environmental Outcomes and Explanations for Low Adoption Rates. The 76th *International Annual Conference of Soil and Water Conservation Society* (SWCS). July 26-28.
19. **Ale[§], S**., Q. Su[2], J. Singh[1], S.K. Himanshu[1], Y. Fan, B. Stoker, E. Gonzalez, B. Sapkota, C. Adams, K. Biggers, E. Kimura, and J. Wall. 2021. An irrigation decision support system for Conserving Resources and Optimizing Cotton Production (idCROP). *ASABE Annual Meeting Paper* No. 2101084. 12-16 July 2021, Virtual Meeting.
20. Himanshu[1, §], S. K., **S. Ale**, J. Bell, Y. Fan, J. Bordovsky, D. Gitz III, and D. Brauer. 2021. Evaluation of efficient crop-growth-stage-based deficit irrigation strategies for cotton production in the Texas High Plains. *ASABE Annual Meeting Paper* No. 2100447. 12-16 July 2021, Virtual Meeting.
21. Himanshu[1, §], S. K., **S. Ale**, P. DeLaune, J. Singh[1], and E. Barnes. 2021. Evaluating Soil Health Benefits of Winter Wheat Cover Crop in Cotton Production Systems. *ASABE Annual Meeting Paper* No. 2100448. 12-16 July 2021, Virtual Meeting.
22. Su[2, §], Q., **S. Ale**, C. Adams, J. Singh[1], S.K. Himanshu[1], and V.P. Singh. 2021. Comparison of four crop water stress index models in irrigation scheduling of cotton. *ASABE Annual Meeting Paper* No. 2100541. 12-16 July 2021, Virtual Meeting.
23. Su[2, §], Q., **S. Ale**, S.K. Himanshu[1], J. Singh[1], and V.P. Singh. 2021. Improving the reliability of monthly and seasonal weather forecasts of the North American Multi-Model Ensemble (NMME) for regional crop modeling. *ASABE Annual Meeting Paper* No. 2100540. 12-16 July 2021, Virtual Meeting. [Su selected as one of the seven winners of the ASABE Student Oral Presentation Competition in NRES Community]
24. Singh[1, §], J., **S. Ale**, E. Kimura, S.K. Himanshu[1], Q. Su[2], and C. Adams. 2021. Determination of DSSAT-CSM-CROPGRO-Cotton model cultivar coefficients from cotton variety trial data for regional-scale crop yield prediction. *ASABE Annual Meeting Paper* No. 2100351. 12-16 July 2021, Virtual Meeting. (Poster)
25. Singh[1, §], J., **S. Ale**, P.B. DeLaune, S.K. Himanshu[1], and E.M. Barnes. 2021. Modeling the impacts of cover crops on soil water availability, soil health and cotton yield in the Texas Rolling Plains. *ASABE Annual Meeting Paper* No. 2100352. 12-16 July 2021, Virtual Meeting.

26. Samanta[2, §], S., **S. Ale**, C. L. S. Morgan, D. Bagnall. 2021. Assessing watershed-scale impacts of adopting soil management practices on water conservation and sediment and nutrient loadings. *ASABE Annual Meeting Paper* No. 2100629. 12-16 July 2021, Virtual Meeting.

27. Samanta[2, §], S., S.K. Himanshu[1], A. Chang, T. Zhang, J. Singh[1], **S. Ale**, P. DeLaune, J. Jung, C. L. S. Morgan, and E. Barnes. 2021. Evaluation of the impacts of tillage and winter cover crops on soil water availability for and yield of cotton using UAV-acquired data. *ASABE Annual Meeting Paper* No. 2100568. 12-16 July 2021, Virtual Meeting.

28. Simbi Mvuyekure[2, §], R. F., **S. Ale**, R. Shrestha, C. B. Adams, S. K. Himanshu[1], K. J. Boote, C. L. Trostle, V. P. Singh, and G. Hoogenboom. 2021. Determination of Optimal Planting Dates and Climate Variability Impacts on Guar Production in the Texas Rolling Plains and High Plains. *ASABE Annual Meeting Paper* No. 21000659. 12-16 July 2021, Virtual Meeting.

29. Fan[§], Y., Y. Liu, P. DeLaune, P. Mubvumba, **S. Ale**, E. Kimura, and S. Park. 2021. Economic feasibility of conservation tillage, cover crops, and irrigation levels in Texas High Plains cotton. *2021 Annual Meeting of the Southern Agricultural Economics Association (SAEA). Virtual Meeting.* February 6-9, 2021. (Poster) (**Won Third Place Poster Award**)

30. Fan[§], Y., S.K. Himanshu[1], S. Ale, J. Bordovsky, S.C. Park. Growth stage-based deficit irrigation strategies to improve profitability of cotton production in the Southern High Plains of Texas. *2021 Annual Meeting of the Southern Branch of the American Society of Agronomy (ASA). Virtual Meeting*. January 30-February 1, 2021. (Poster)

31. Fan[§], Y., S.K. Himanshu[1], S. Ale, J. Bordovsky, S.C. Park. Economic risk analysis of crop growth stage-based deficit irrigation strategies: Simulated trends from Texas cotton production. *2021 Annual Meeting of the Southern Branch of the American Society of Agronomy (ASA). Virtual Meeting*. January 30-February 1, 2021. (Poster)

32. **Ale[§], S.**, S. Himanshu[1], S. Samanta[2], A. Chang, J. Kim[1], J. Bordovsky, J. Jung, and E. Barnes. 2021. Validation of UAV estimates of canopy height and boll count with manual measurements for two cotton cultivars. *Beltwide Cotton Conferences (Virtual meeting).* (Poster)

33. Himanshu[1], S.K., **S. Ale**[§], J. Singh[1], P. DeLaune, and E. Barnes. 2021. Evaluation of the effects of winter wheat cover crop on soil health in cotton production systems of the Texas Rolling Plains. *Beltwide Cotton Conferences (Virtual meeting).*

34. **Ale[§], S.**, Himanshu[1], S., Mauget, S., Hudson, D., Goebel, T., Liu, B., Baumhardt, R., Bordovsky, J., Brauer, D., Lascano, R. and Gitz III, D. 2020. Simulated effects of changes in selected soil physical and chemical properties associated with soil health on dryland cotton production. ASA, CSSA and SSSA International Annual Virtual Meetings, Nov. 9-13.

35. Himanshu[1, §], S. K., Samanta[2], S., Chang, A., Kim[1], J., **Ale, S.**, Bordovsky, J., Jung, J. and Barnes, E. 2020. A Comparison of UAV-derived and manually-measured cotton phenological dataset under different irrigation strategies. ASA, CSSA and SSSA International Annual Virtual Meetings, Nov. 9-13.

36. Himanshu[1, §], S. K., **Ale, S.** Bordovsky, J., Kim[1], J., Samanta[2], S., Omani, N. and Barnes, E. 2020. Evaluating the effects of irrigation termination on productivity of cotton under deficit irrigation strategies. ASA, CSSA and SSSA International Annual Virtual Meetings, Nov. 9-13.

37. Kim[1], J., **S. Ale**[§], W.R. Teague, and S. DelGrosso. 2020. Assessing the impacts of grazing management on soil carbon sequestration under contrasting climatic conditions in the U.S. Great Plains using SWAT. ASA, CSSA and SSSA International Annual Virtual Meetings, Nov. 9-13.

38. Samanta[2, §], S., **S. Ale**, D.K. Bagnall, C.L.S. Morgan, C.C. Molling, R.T. Woodward, W.A. McIntosh, and J.A. Howe. 2020. The role of soil structure in modeling soil management: A quantitative impact assessment. ASA, CSSA and SSSA International Annual Virtual Meetings, Nov. 9-13.

39. **Ale**[§]**, S.**, J. Kim[1], J. Park, and W.R. Teague. 2020. Role of adaptive multi-paddock grazing on downstream flood mitigation and climate change adaptation. *ASABE Annual Meeting Paper* No. 2001652. 13-15 July 2020, Virtual Meeting. (**Invited presentation**).

40. Himanshu[1], S.K., Y. Fan, **S. Ale**[§], and J.P. Bordovsky. 2020. Modeling water productivity and net returns of crop-growth-stage-based deficit irrigation strategies for cotton. *ASABE Annual Meeting Paper* No. 2000609. 13-15 July 2020, Virtual Meeting.

41. Kim[1], J., **S. Ale**[§], W.R. Teague, and S. DelGrosso. 2020. Impact of grazing management practices on soil carbon sequestration under contrasting climatic conditions in the U.S. Great Plains. *ASABE Annual Meeting Paper* No. 2000773. 13-15 July 2020, Virtual Meeting.

42. Samanta[2, §], S., **S. Ale**, C.L.S. Morgan, D. Bagnall, R. Woodward, W.A. McIntosh, J.A. Howe, and C. Molling. 2020. Modeling the effects of changes in soil management practices on plant available soil water. *ASABE Annual Meeting Paper* No. 2001339. 13-15 July 2020, Virtual Meeting.

43. **Ale**[§]**, S.**, S.K. Himannshu[1], S.A. Mauget, D. Hudson, T.S. Goebel, B. Liu, R.L. Baumhardt, J.P. Bordovsky, D.K. Brauer, R.J. Lascano, and D.C. Gitz. 2020. Potential dryland cotton yield increases from management of selected soil physical and chemical properties associated with soil health. *ASABE Annual Meeting Paper* No. 2001058. 13-15 July 2020, Virtual Meeting.

44. Himanshu[1], S.K., S. Samanta[2, §], A. Chang, J. Kim, **S. Ale**, J. Bordovsky, J. Jung, and E. Barnes. 2020. Comparative validation of UAV-collected cotton phenological dataset with manual measurements under different irrigation treatments. *ASABE Annual Meeting Paper* No. 2001213. 13-15 July 2020, Virtual Meeting.

45. Himanshu[1], S.K., Y. Fan, **S. Ale**[§], and J.P. Bordovsky. 2020. Simulated crop-growth-stage-based deficit irrigation strategies for increasing water productivity and net returns. *Beltwide Cotton Conferences.* 8-10 January 2020. Austin, TX.

46. Kothari[2], K., **S. Ale**[§], J.P. Bordovsky, C.L. Munster, and G. Hoogenboom. 2020. Simulating climate-change-adaptive cultivars for sustaining cotton production in the Texas High Plains. *Beltwide Cotton Conferences.* 8-10 January 2020. Austin, TX.

47. Ayankojo[§], I.T., K.R. Thorp, K.T. Morgan, K. Kothari[2], and **S. Ale**. 2020. Assessing the impact of future climate on cotton production in the Arizona Low Desert. *Beltwide Cotton Conferences.* 8-10 January 2020. Austin, TX.

48. **Ale[§], S.,** and S. Chaudhuri[1]. Groundwater quality and availability in Texas, USA: A spatio-temporal assessment. *HYDRO-2019 International Conference*. 18-20 December 2019, Hyderabad, India [**Invited keynote presentation**].

49. **Ale[§], S.**, S.K. Himanshu[1], N. Omani[1], J. Bordovsky, K. Thorp, and E. Barnes. 2019. A modeling approach to determine ideal irrigation termination periods for cotton. *ASA, CSSA and SSSA International Annual Meetings*, San Antonio, Texas, Nov. 10-13, 2019.

50. Kothari[2,§], K., **S. Ale**, A. Attia, N. Rajan, Q. Xue, and C. Munster. 2019. Winter wheat production in the Texas High Plains under changing climate: Potential impacts and adaptations. *ASA, CSSA and SSSA International Annual Meetings*, San Antonio, Texas, Nov. 10-13, 2019.

51. Samanta[2,§], S., **S. Ale**, C.L.S. Morgan, D.K. Bagnall, R.T. Woodward, W.A. McIntosh, and J.A. Howe. 2019. Simulated impacts of soil management practices on plant available soil water. *ASA, CSSA and SSSA International Annual Meetings*, San Antonio, Texas, Nov. 10-13, 2019.

52. Kim[1], J., **S. Ale[§]**, and W.R. Teague. 2019. Simulated impact of grazing management practices on sediment and nutrient losses, and soil carbon sequestration. *ASA, CSSA and SSSA International Annual Meetings*, San Antonio, Texas, Nov. 10-13, 2019.

53. Morgan[§], C.L.S., D.K. Bagnall, S. Samanta, R.T. Woodward, W.A. McIntosh, **S. Ale**, and J.A. Howe. 2019. Linking soil structure to adoption of soil health promoting practices in vertisols. *ASA, CSSA and SSSA International Annual Meetings*, San Antonio, Texas, Nov. 10-13, 2019. [**Invited presentation**]

54. Bagnall, D.K., C.L.S. Morgan, R.T. Woodward, Wm. A. McIntosh, S. Ale, M. Black, S. Samanta. 2019. Investigating Soil Health and Stakeholder Motivations in the Texas Blackland Prairies. Soil Health Institute Annual Meeting.

55. **Ale[§], S.**, R.B. Movva, Y.R. Kaluvai, and V.S. Tammineedi. 2019. Managing irrigation-induced salinity and waterlogging for achieving water and food security – Experiences from Andhra Pradesh, India. *ASABE Annual Meeting Paper* No. 1901948. 7-10 July 2019, Boston, MA. (**Invited presentation**).

56. **Ale[§], S.**, J. Kim[1], and W.R. Teague. 2019. Influences of climate and soil properties on hydrologic function and soil carbon sequestration under different grazing management practices. *ASABE Annual Meeting Paper* No. 1901337. 7-10 July 2019, Boston, MA.

57. Himanshu[1,§], K., **S. Ale**, J.P. Bordovsky, and M.K. Darapuneni. 2019. Evaluation of deficit irrigation scheduling strategies for cotton to cope with declining water availability in the Southern High Plains. *ASABE Annual Meeting Paper* No. 1900798. 7-10 July 2019, Boston, MA.

58. Himanshu[1,§], K., **S. Ale**, N. Omani[1], J.P. Bordovsky, K.R. Thorp, and E.M. Barnes. 2019. Evaluation of irrigation termination effects on cotton yield and water use efficiency under deficit irrigation strategies in the Texas High Plains. *ASABE Annual Meeting Paper* No. 1900799. 7-10 July 2019, Boston, MA.

59. Kothari[2] , K., **S. Ale**[§], J.P. Bordovsky, C.L. Munster, and G. Hoogenboom. 2019. Potential climate change adaptation strategies for cotton production in the Texas High Plains. *ASABE Annual Meeting Paper* No. 1900648. 7-10 July 2019, Boston, MA.

60. Kim[1, §], J., **S. Ale**, and R. Teague. 2019. Responses of streamflow, water quality, and soil carbon sequestration under alternative grazing management practices in a cold climate region. *US-Korea Conference on Science, Technology and Entrepreneurship*. 14-16 August 2019, Rosemont, IL.

61. Morgan[§], C.L.S., D.K. Bagnall, R.T. Woodward, and **S. Ale**. 2019. A soil security research framework that develops actionable links between soil managers and stakeholders. *SSSA International Soils Meeting*, San Diego, California, Jan. 6-9, 2019.

62. **Ale[§], S.**, S. Himanshu[1], N. Omani[1], J. Bordovsky, K. Thorp, and E. Barnes. 2018. Simulated strategies for efficient use of irrigation water for cotton production in the Texas High Plains. *Global Water Security Conference for Agriculture and Natural Resources*. 3-6 October 2018, Hyderabad, India.

63. Kothari[2,§], K., **S. Ale**, J. Bordovsky, K. Thorp, D. Porter, G. Hoogenboom, and C. Munster. 2018. Simulation of water-use-efficient irrigation strategies and climate-change-adaptation scenarios for grain sorghum production in the Texas High Plains. *Global Water Security Conference for Agriculture and Natural Resources*. 3-6 October 2018, Hyderabad, India. (Kothari was selected to receive partial travel assistance from this conference grant).

64. Jha[2], R., A. Pandey[§] and **S. Ale**. 2018. Performance evaluation of canal irrigation system. *Global Water Security Conference for Agriculture and Natural Resources*. 3-6 October 2018, Hyderabad, India.

65. **Ale[§], S.**, N. Omani[1], S. Himanshu[1], and P. DeLaune. 2018. Effect of winter wheat cover crop termination date on soil water availability and yield of cotton in the Texas Rolling Plains. *ASABE Annual Meeting Paper* No. 1801053.

66. Kothari[2,§], K., **S. Ale**, J.P. Bordovsky, and C.L. Munster. 2018. Assessing the impacts of climate change on seasonal irrigation and water use efficiency of grain sorghum and cotton in the Texas High Plains. *ASABE Annual Meeting Paper* No. 1800681. St. Joseph, MI: ASABE. (Kothari's presentation was selected as an outstanding NRES graduate student oral presentation).

67. Kim[1], J., **S. Ale**, and R. Teague. 2018. Impact of grazing management practices on water catchment functions and soil carbon sequestration. *ASABE Annual Meeting Paper* No. 1800265.

68. Kim[1], J., **S. Ale**, and R. Teague. 2018. Simulated impacts of grazing management practices on hydrologic components, streamflow pattern, and water quality. *US-Korea Conference on Science, Technology and Entrepreneurship*. 1-4 August, Queens, NY.

69. Kothari[2], K., **S. Ale**[§], J.P. Bordovsky, and C. Munster. 2018. Evaluation of efficient irrigation management strategies for grain sorghum production in the Texas High Plains. *Ogallala Aquifer Program Workshop.* 27-29 March 2018. Lubbock, TX.

70. **Ale[§], S.**, N. Omani[1], J.P. Bordovsky, 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.

71. Kothari[2,§], 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).

72. **Ale[§], S.**, P. Adhikari[1], N. Omani[1], 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.

73. Kothari[2,§], 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)

74. Garibay[2,§], 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)

75. **Ale[§], S.**, P. Adhikari[1], 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.

76. Sharma[§], 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.

77. **Ale[§], S.**, Y. Chen[2] 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.

78. **Ale[§], S.**, Y. Chen[2] 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.

79. Park[1], J., **S. Ale**[§] 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.

80. Chen[2,§], 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.

81. Chen[2,§], 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.
82. **Ale[§], 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.
83. Chen[2,§], 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. *5th Annual Student Water Conference*. 24-25 March 2016. Oklahoma State University, Stillwater, OK. (Chen received $500 Travel Grant).
84. Adhikari[1,§], P., **S. Ale**, J. P. Bordovsky, K. R. Thorp and N.R. Modala[2]. 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.
85. Modala[2], N.R., **S. Ale[§],** 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.
86. Chen[2,§], 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).
87. **Ale[§], S.**, J. Park[1], 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.
88. Chen[2,§], 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.
89. Adhikari[1, §], 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.
90. Rajan[§], 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.
91. Chen[2], Y., **S. Ale[§]**, 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.
92. **Ale[§], S.**, P. Adhikari[1] and N.R. Modala[2]. 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.

93. Park[1, §], 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.

94. Daggupati, P., **S. Ale**[§], 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 presentation**).

95. Saraswat, D.[§], 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 presentation**).

96. Modala[2,§], 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.

97. Moriasi[§], 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. 69th Soil and Water Conservation Society International Annual Conference. 27-30 July 2014. Lombard, IL.

98. **Ale[§], S.** and S. Chaudhuri[1]. 2013. Groundwater resources and associated environmental issues in Texas: A Changing Scenario. *ASABE Annual Meeting Paper* No. 131618351. St. Joseph, MI: ASABE.

99. Modala[2,§], 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.

100. Chaudhuri[1, §], 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.

101. Rajan, N.[§], 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.

102. Chaudhuri[1, §], 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.

103. Modala[2, §], 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.

104. **Ale[§], 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.

105. Bowling[§], 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.

106. Bowen[§], 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.

107. **Ale[§], 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 (AGU) Fall Meeting*. 5-9 December, San Francisco, CA.

108. **Ale[§], 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.

109. Rajan[§], 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.

110. Mohan Rao[2], B.V., M. Raghu Babu, **S. Ale[§],** 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.

111. **Ale, S,** L.C. Bowling[§], and P.R. Owens. 2011. Spatial distribution of nitrate losses from subsurface drainage systems across Indiana. *National Water Conference*. Washington, D.C.

112. **Ale, S.** and L.C. Bowling[§]. 2010. Subsurface drainage contribution to streamflow in subsurface drained agricultural watersheds in Indiana. *American Geophysical Union (AGU) Fall Meeting*, San Francisco, CA.

113. **Ale[§], 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.

114. **Ale, S.** and L.C. Bowling[§]. 2010. Estimating potentially subsurface drained areas in Indiana and their influence on streamflow pattern. *National Water Conference*. Hilton Head, SC.

115. **Ale[§], 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.

116. **Ale[§], 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.

117. Merriman[§], 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.

118. Frankenberger[§], J., E. Kladivko, 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.

Contract and Grant Research Reports (14)

1. **Ale, S.**, DeLaune, P.B., Himanshu, S.K., Singh, J., and Bawa, A. 2022. Evaluation of soil health benefits of cover crops in cotton production systems of the Texas Rolling Plains. Cotton Incorporated, Final Project Report.
2. **Ale, S.**, DeLaune, P.B., and Himanshu, S.K. 2021. Evaluation of soil health benefits of cover crops in cotton production systems of the Texas Rolling Plains. Cotton Incorporated, First Annual Project Report.
3. **Ale, S.**, Bordovsky, J., Thorp, K., Omani, N., and Himanshu, S.K. 2020. Determining optimum irrigation termination periods for cotton production in the Texas High Plains using the DSSAT Cropping System Model. Cotton Incorporated, Final Project Report.
4. **Ale, S.**, Bordovsky, J., Thorp, K., Omani, N., and Himanshu, S.K. 2019. Determining optimum irrigation termination periods for cotton production in the Texas High Plains using the DSSAT Cropping System Model. Cotton Incorporated, Second Annual Project Report.
5. **Ale, S.**, Bordovsky, J., Thorp, K., Omani, N., and Himanshu, S.K. 2018. Determining optimum irrigation termination periods for cotton production in the Texas High Plains using the DSSAT Cropping System Model. Cotton Incorporated, First Annual Project Report.
6. Rajan, N., Maas, S., **Ale, S.** and Casey, K. 2017. 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, Final Project Report.
7. Bordovsky, J., Wall, J., Porter, D., Biggers, K., and **S. Ale**. 2017. Development, Deployment, and Demonstration of the Dashboard for Irrigation Efficiency Management (DIEM). Texas A&M Water Seed Grant program, Final Project Report.
8. **Ale, S.**, DeLaune, P.B., Thorp, K. and Adhikari, P. 2017. Evaluating the feasibility of cover crops in the Texas Rolling Plains cotton production systems using the DSSAT Cropping System Model. Cotton Incorporated, Final Project Report.
9. **Ale, S.**, DeLaune, P.B., Thorp, K. and Adhikari, P. 2016. Evaluating the feasibility of cover crops in the Texas Rolling Plains cotton production systems using the DSSAT Cropping System Model. Cotton Incorporated, First Annual Project Report.
10. 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. Texas A&M Water Seed Grant program, Final Project Report.
11. **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. Cotton Incorporated, Final Project Report.

12. **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. Cotton Incorporated, Final Project Report.
13. Rajan, N., **S. Ale**, and P. B. DeLaune. 2013. Demonstrating tools for improving on farm irrigation efficiency (TWDB Contract No. 1103581253). Texas Water Development Board, Final Project Report. p.91. https://www.twdb.texas.gov/publications/reports/contracted reports/doc/1103581253_irrigationefficiency.pdf
14. 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. Texas AgriLife Research Cropping Systems Program, Final Report.

Other Research/Extension Publications (11)

1. 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/
2. **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
3. 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
4. Satyanarayana. T.V., G.V. Lakshmi, C.V. Hanumanthaiah, **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
5. **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.
6. Satyanarayana. T.V., G.V. Lakshmi, **A. Srinivasulu**, C.V. Hanumanthaiah, 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
7. 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
8. **Srinivasulu, A.**, G.V. Lakshmi, M. Ratnam, T.V. Satyanarayana, C.V. Hanumanthaiah, 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

9. **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
10. 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
11. Tyagi, N.K., **A. Srinivasulu**, Ambrish 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.

Popular Press Articles (21)

1. Ledbetter, K. S. Ale, and K. Kothari. 2021. Adapting crops for future climate conditions. AgriLife Today. October 13, 2021.
2. Ledbetter, K., **S. Ale**, T. Steffens, R. Teague, P. DeLaune, and T. Wang. 2021. Pasture-cropping practice could improve degraded Texas grassland soils. AgriLife Today. February 16, 2021.
3. Ledbetter, K., **S. Ale**, C. Adams, K. Biggers, E. Kimura, J. Wall, and Y. Fan. 2020. New app development could aid crop irrigation management. AgriLife Today. February 12, 2020.
4. Coulloudon, L., **S. Ale**, S. Himanshu, and J. Bordovsky. 2019. Study suggests growth-stage-based irrigation strategies for high-yielding cotton. AgriLife Today. November 18, 2019.
5. Ledbetter, K., and **S. Ale**. 2019. Grain sorghum irrigation water-use efficiency dependent on weather conditions. AgriLife Today. January 29, 2019.
6. Ledbetter, K., Adams, C. B., **Ale, S.**, & Trostle, C. L. 2018. Guar, wheat integration focus of new Texas A&M AgriLife study. AgriLife Today. August 20, 2018.
7. Ledbetter, K., and **S. Ale**. 2017. Winter wheat feasible cover crop for Rolling Plains cottonhttp://today.agrilife.org/2015/11/14/researchers-high-plains-cotton-production-can-survive-predicted-climate-changes/. AgriLife Today. November 27, 2017.
8. Ledbetter, K., **S. Ale**, and W. R. Teague. 2017. Runoff reduced, water retention increased by multi-paddock grazinghttp://today.agrilife.org/2015/11/14/researchers-high-plains-cotton-production-can-survive-predicted-climate-changes/. AgriLife Today. March 9, 2017.
9. Ledbetter, K., **S. Ale**, P. Adhikari, and J. Bordovsky. 2015. High Plains cotton production can survive climate changeshttp://today.agrilife.org/2015/11/14/researchers-high-plains-cotton-production-can-survive-predicted-climate-changes/. AgriLife Today. November 14, 2015.
10. Ledbetter, K. F. Jaber, **S. Ale**, and L. Reagan. 2015. Rainwater Harvesting Workshop. AgriLife Today. May 27, 2015.
11. Ledbetter, K. and **S. Ale**. 2014. AgriLife Research study identifies contributing factors to groundwater table declines. AgriLife Today. July 10, 2014.

12. 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.
13. Ledbetter, K., **S. Ale**, and S. Chaudhuri. 2013. Salinization of groundwater resources in Texas is a growing concern. AgriLife Today. November 15, 2013.
14. Ledbetter, K., **S. Ale**, and S. Chaudhuri. 2013. Groundwater challenges emerging around Dallas-Fort Worth metroplex. AgriLife Today. April 9, 2013.
15. Ledbetter, K., **S. Ale**, and S. Chaudhuri. 2012. Groundwater nitrate concentrations increasing in Rolling Plains. AgriLife Today. June 12, 2012.
16. Ledbetter, K. and **S. Ale**. 2010. Water quality, quantity will be focus for new AgriLife Research scientist. AgriLife Today. December 21, 2010.
17. 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.
18. 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.
19. Srinivasulu, A. and Singh, T.V.K. 1999. "*Sprayerlu dustarla vadakamlo suchanalu*" (in *Telugu,* an Indian language). Prajashakthi dated 05.05.1999.
20. Srinivasulu, A., 1998 "*Vidyut motorla nirvahanalo melakuvalu*" (in *Telugu,* an Indian language). Annadata, Vol.30, No.8, pp. 48 – 49.
21. 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 (22)

1. Invited keynote presentation on "*Crop simulation models, Big Data, and IoT based approaches for enhancing agricultural water use efficiency*" in the *Roorkee Water Conclave* organized by the Indian Institute of Technology, Roorkee during March 2-4, 2022. About 150 participants attended the talk.
2. Invited webinar presentation on "*Sustaining crop production while conserving natural resources under changing climate"*. International webinar on Emerging Technologies in Agricultural Engineering for Food Safety & Security organized by Acharya N G Ranga Agricultural University, Andhra Pradesh, India. 26 August 2021.
3. Invited presentation on "*Global water security: Current research, perspectives, and priorities for action*" given jointly with Daren Harmel in the NRES Distinguished Lecture Series session at the *ASABE Annual International (Virtual) Meeting*. 13 July 2021.
4. Invited webinar presentation on "*Evaluation of efficient crop and irrigation management strategies for sustaining crop production under changing climate"*. Webinar series organized by the National Institute of Plant Health Management (NIPHM), Hyderabad,

India on the theme *Water Management for Plant Health* as a part of International Year of Plant Health celebrations. 3-4 August 2020.

5. Invited presentation on "*Role of adaptive multi-paddock grazing on downstream flood mitigation and climate change adaptation*. ASABE Annual International (Virtual) Meeting. 13-15 July 2020 (repeat from the conference papers).
6. Invited keynote presentation on "*Groundwater quality and availability in Texas, USA: A sptaio-temporal assessment"*. HYDRO-2019 International Conference. 18-20 December 2020, Hyderabad, India (repeat from the conference papers).
7. Invited presentation on "*Managing irrigation-induced salinity and waterlogging for achieving water and food security – Experiences from Andhra Pradesh, India".* Sustainable Food-Water-Energy nexus session at the ASABE Annual International Meeting. 7-10 July 2019, Boston, MA. (repeat from the conference papers).
8. Invited talk on *"Impacts of winter wheat cover crop on soil water availability for cotton in the Texas Rolling Plains"*. Precision Cotton Researchers Meeting, Beltwide Cotton Conferences, Dallas, TX; January 4, 2017.
9. Invited lecture on "*Land use change from cotton to perennial bioenergy grasses in the Texas High Plains: Implications on water and nitrogen balances*". Indian Institute of Technology, Hyderabad, India; June 14, 2016.
10. Invited talk on "*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.
11. Invited presentation on "*Impact of grazing management practices on water conservation, water quality and streamflow*". Canadian River Basin Advisory Committee Meeting; Amarillo, TX; April 19, 2016.
12. Invited webinar on "Decadal trends in Texas groundwater levels and groundwater quality". Graduate seminar series in Environmental Engineering at the Department of Environmental Engineering at Texas A&M University - Kingsville, Kingsville, TX. April 8, 2015.
13. Invited talk on "*Spatio-temporal variability in groundwater levels and quality in Texas*". Gateway Groundwater Conservation District; Quanah, TX; May 5, 2015.
14. Invited presentation on "*Spatio-temporal variability of groundwater levels and quality in Texas*". Texas Section ASABE meeting; Victoria, TX; October 16, 2014.
15. Invited presentation on "*Groundwater quality in the Red River Basin and Rolling Plains in Texas*". Regional Conference of the Red River Valley Association; Wichita Falls, TX; November 21, 2013.
16. Invited talk on "*Groundwater quality in the Ogallala aquifer region in Texas*". Ogallala Aquifer Program Workshop; Amarillo, TX; March 5, 2013.
17. Invited presentation on "*Groundwater contamination by nitrate in Texas*". Fall seminar series organized jointly by the Dept. of Biological & Agricultural Engineering and Zachry Dept. of Civil Engineering, TAMU, College Station, TX; September 12, 2012.

18. Invited talk on "*Shallow groundwater quality in the Canadian and Red River basins*". Red River Authority of Texas Basin Advisory Committee meeting; Amarillo, TX; March 20, 2012.
19. Invited presentation on "*Influence of subsurface drainage on water quality and streamflow pattern in Indiana*". Hydraulics seminar series of the School of Civil Engineering, Purdue University; West Lafayette, IN; March 10, 2010.
20. Invited lecture on **"***Irrigation water management"*. Tennessee National Guard Agricultural Development Team training program before their deployment to Afghanistan; Purdue University; West Lafayette, IN; February 13, 2009.
21. Invited talk on "*Subsurface drainage for the reclamation of waterlogged saline lands in canal commands of Andhra Pradesh"*. Indo-Dutch Network Project Workshop; Gujarat Agricultural University; Navsari, India; February 3, 2003.
22. Invited lecture on "*Salt and water balance modeling of the data from Konanki pilot area in Nagarjunasagar project right canal command in India"*. 40th International Course on Land Drainage (ICLD); Alterra-ILRI; Wageningen, The Netherlands; December 4, 2001.

Other Professional Activities

1. Gave a live radio interview for Houston Matters (Houston Public Media) on the topic "Effects of climate change and global warming on farming in Texas and potential adaptation measures" on March 3, 2022 for about 15 minutes.
2. Guest Editor, Global Water Security Conference Special Collection, Transactions of the ASABE, Applied Engineering in Agriculture; 2018-2020.
3. Guest Editor Chair, Special issue on "Climate Change and Coastal Agriculture", Journal of the Indian Society of Coastal Agricultural Research (ISCAR), India; 2019-2020.
4. Member, Editorial Board, Journal of Research PJTSAU (Professor Jayashankar Telangana State Agricultural University), Hyderabad, India, 2019-present
5. Reviewed > 140 articles for 36 journals.
6. Obtained Remote Pilot Certificate for operating small Unmanned Aircraft Systems with effect from November 13, 2018.
7. Co-organizer, Workshop on "Climate change and urbanization: Building resilience in the urban water sector" organized at Osmania University, Hyderabad during 16-17 December 2019. Gave two lectures:
    a. Climate Resilient Water Sensitive Urban Design – Concept and Examples
    b. Climate Change Data Download and Processing.
8. Member, International Advisory Committee, International Conference on "System of Crop Intensification for Climate-Smart Livelihood and Nutritional Security" being organized by Society for Advancement of Rice Research at Hyderabad, India during 12-14 December, 2022.
9. Member, Technical program subcommittee, ASABE's Global Initiative Conference on "Sustainable Energy for Sustainable Future", scheduled to be held during 24-26 October 2022 at San Jose, Costa Rica.

10. Member, International Advisory Board, International Symposium on Coastal Agriculture (ISCA) organized by the Indian Society of Coastal Agricultural Research (ISCAR) on the topic "Transforming Coastal Zone for Sustainable Food & Income Security" held virtually during 16-19 March 2021.
11. Member, International Advisory Committee, HYDRO-2019 International conference organized by Osmani University during 18-20 December 2019 at Hyderabad, India.
12. Member, Organizing Committee & Co-Chair, Local Arrangements Committee, ASABE Global Water Security Conference, 3-6 October 2018. Hyderabad, India.
13. Member, International Advisory Committee, International conference on "Sustainable Technologies for Intelligent Water Management" organized by the Indian Institute of Technology, Roorkee during 16-19 February 2018 at Roorkee, India.
14. Member, Organizing Committee, 10th International Drainage Symposium, 7-9 September 2016. Minneapolis, MN, USA.
15. 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.
16. Member, Editorial Board, Andhra Agricultural Journal, 2002-2003.

Updated on September 6, 2022