Prof. Krishna Jagadish SV
PhD (Agriculture [Crop Physiology]; University of Reading, UK)
MSc (Agronomy), BSc (Agriculture)

Current position and contact details

Professor & Thornton Distinguished Chair
Director – Texas Coalition for Sustainable Integrated Systems Research Program (TeCSIS)
Director – Davis College Water Center
Coordinator – Texas Alliance for Water Conservation (TAWC)
Department of Plant and Soil Science
Texas Tech University
Lubbock, TX, 79410
United States of America
Email – kjagadish.sv@ttu.edu

Academic and professional appointments

- **Professor** and Thornton Distinguished Chair; **Director** – Texas Coalition for Sustainable Integrated Systems Research Program (TeCSIS); **Director** – Davis College Water Center; **Coordinator** – Texas Alliance for Water Conservation (TAWC), Department of Plant and Soil Science, Lubbock, Texas, USA (Mar. 2022 – till date)
- **Professor** - Crop Physiologist, Department of Agronomy, Kansas State University, Manhattan, Kansas, USA (June 2021 – Mar. 2022)
- **Associate Professor** - Crop Physiologist, Department of Agronomy, Kansas State University, Manhattan, Kansas, USA (May 2015 – May 2021)
- **Scientist II** - Team leader for IRRI's heat and combined drought and heat stress physiology research and *Deputy Division Head* at the Crop and Environmental Sciences Division, (Currently - Sustainable Impact Platform), International Rice Research Institute, Philippines (Mar. 2014 - Apr. 2015)
- **Scientist I** - Team leader for heat stress physiology at the Crop and Environmental Sciences Division, International Rice Research Institute, Philippines (Mar. 2011 - Mar. 2014)
- **Post-Doctoral Fellow** - Plant Breeding Genetics and Biotechnology Division, International Rice Research Institute, Philippines (Feb. 2008 - Mar. 2011)
- **Visiting Research Fellow** - Plant Breeding Genetics and Biotechnology Division, International Rice Research Institute, Philippines (Nov. 2007 - Jan. 2008)
- **Senior Research Fellow** - University of Agricultural Sciences, Bangalore, India (Dec. 2002 - Jun. 2003).

Other professional appointments

- **Adjunct Scientist** - Crop and Environmental Sciences Division (Current - Sustainable Impact Platform), International Rice Research Institute, Philippines (2015 - Continuing)
- **Adjunct Faculty** - Department of Crop Physiology, University of Agricultural Sciences, Bangalore, India (2020 - Continuing)
- **Adjunct Professor** - Genetic Engineering, SRM Institute of Science & Technology, TamilNadu, India (2019 - Continuing)
- **Adjunct Faculty** - Department of Plant Biotechnology, TamilNadu Agricultural University, Coimbatore, India (2021 - 2022)
- **Co-Chair** for the Adaptation of Wheat to Abiotic Stresses - Expert Working Group (AWAS EWG) as a part of the Wheat Initiative (2021 – 2022)

- **Adjunct Assistant Professor** - Agricultural Economics and Agribusiness, University of Arkansas, USA (2013 - 2019)

Academic record

- **Ph.D. -** Molecular and physiological dissection of heat tolerance during anthesis in rice**:** University of Reading, UK - Research was conducted at the Plant Environment Laboratory, University of Reading and the International Rice Research Institute, Philippines (2003 - 2007)
- **M.S. Agronomy with distinction** [95%]: University of Agricultural Sciences, Dharwad, India (2000 - 2002)
- **B.S. Agriculture and allied subjects with distinction** [90%]**:** University of Agriculture Sciences, Bangalore, India (1996 - 2000)

Successful grant proposals

Total funds generated as PI (21.95 Million USD) and as Co-PI (8.21 Million USD)

Lead Project Investigator (PI) at TTU and KSU

- Transforming grain sorghum's climatic yield potential and grain quality through trait-based ideotype breeding. Funded by United Sorghum Checkoff Program (1,600,000 USD) from 2022 to 2027
- Sustainable irrigation and climate adaptation in southern High Plains: A satellite-enabled and peer-led model. Funded by USDA Sustainable Agricultural Systems (SAS) program (1,870,803 USD) from 2025 to 2030
- Establishing climate smart commodities with reduced greenhouse gas footprints to enhance environmental and economic sustainability in the Texas High Plains. Funded by USDA NRCS (4,945,553 USD) from 2023 to 2028
- Sorghum cotton rotation - A pragmatic route to improve farm productivity in water limited environments of the Southwest High Plains. Funded by USDA NIFA (294,000) from 2023 to 2025
- Climate-smart CO2 responsive cotton equipped with enhanced root biomass and. carbon sequestration for sustainable production. Project Revolution funded by BASF ($266,597) from 2024 to 2026
- Innovate to impact water conservation. Funded by Tito's foundation (1,200,000 USD) from 2023 to 2026
- Catalyst grant – A collaborative trans-disciplinary network for exploring novel ideas and developing next generation workforce for water conservation. Funded by Davis College, Texas tech (250,000 USD) from 2023 to 2026
- Field phenotyping using machine learning tools integrated with genetic mapping to address heat and drought induced flower abortion in soybean. Funded by Multi Regional Soybean Checkoff (1,201,188 USD) from 2023 to 2024
- Assess new irrigation technology and revitalize TAWC tools to strengthen water conservation efforts in Southern Texas High Plains. Funded by Texas Water Development Board (499,548 USD) for 2024-2026
- Conservation of natural and sustainable environmental resources with verified engagement (CONSERVE). Funded by USDA-NRCS (1,014,790 USD) 2023 to 2027 [Part of the 63M$ project led by National Sorghum Producers]
- Unravelling the impact of weather variables on US cotton yield and quality. Funded by Cotton Incorporated (4,999 USD) from 2023-2024.
- Phenotyping root traits to pave the way for developing molecular markers to improve sorghum productivity under water and nutrient limited environments. Funded by University of Arizona (15,000 USD) from 2024-2025.

- Heat and drought stress impact on yield and quality of grain and forage sorghum. Funded by United Sorghum Checkoff Program (20,000 USD) from 2024 to 2025.
- Sorghum & pearl millet as sustainable alternative forages. Funded by CH Foundation (56,000 USD) from 2024 to 2025
- Heat stress impact on cotton yield and quality - Current status and future research direction. Funded by Cotton Incorporated (85,000 USD) 2022 - 2024
- EPSCoR RII Track-2 FEC: Comparative genomics and phenomics approach to discover genes underlying heat stress resilience in cereals. Funded by National Science Foundation (1,715,216 USD) 2017 to 2021
- Unlocking the production potential of "polder communities" in coastal Bangladesh through improved resource use efficiency and diversified cropping systems. Phase I - Funded by USAID Feed the Future Innovation Lab for Sustainable Intensification (999,508 USD) 2016 to 2019
- Pathways of scaling agricultural innovations for sustainable intensification in the polders of coastal Bangladesh. Phase II – Funded by USAID Feed the Future Innovation Lab for Sustainable Intensification (750,000 USD) 2020 to 2023
- Impact of heat and drought stress on sorghum and wheat grain composition and chemistry. Funded by USDA (165,000 USD) 2020 to 2024
- Environmental stress tolerance in wheat. Funded by USDA (650, 000 USD) 2020 to 2025
- Enhancing nitrogen and water use efficiency in wheat and sorghum, using ground and aerial-based sensor platforms. Funded by industry "TopCon Positioning Systems Inc." (145, 000 USD) 2019 to 2021
- Redox-engineered soybean – a novel way to safeguard Kansas soybeans from severe drought and heat stress. Funded by Kansas Soybean Commission (80,000 USD) 2020 to 2022
- Strategies to develop wheat genotypes to beat post-flowering heat and drought stress. Funded by the Kansas Wheat Commission (135,000 USD) 2015 to 2018
- Physiological and genetic characterization of grain sorghum for enhancing terminal heat and drought stress resilience. Funded by Kansas Grain Sorghum Commission (210,000 USD) 2015 to 2019
- Impact of heat and drought stress on sorghum and wheat grain composition and chemistry. Funded by USDA as a multi-year extramural non-assistance cooperative agreement (362,266 USD) 2015 to 2020
- Tolerance to environmental stress in wheat. Funded by USDA as a multi-year extramural non-assistance cooperative agreement (599,889 USD) 2016 to 2020
- High throughput platform to enhance quality of beans and add value to Kansas soybean breeding program. Funded by Kansas Soybean Commission (70,000 USD) 2017 to 2019
- Improving pearl millet productivity for smallholder resilience to climate change in Niger. Funded by USAID through US (KSU) - CGIAR (ICRISAT, Africa) linkage program (59,200 USD [30,000 USD for KSU]) 2015 to 2017
- Validating promising rice transgenic events identified with potential superior salt stress resilience. Industry funded (TechAccel) (89,132 USD) 2016 to 2017

Lead Project Investigator (PI) at IRRI, Philippines

- Safeguarding Asian rice production from a rapidly warming climate. Funded by the German Federal Ministry for Economic Cooperation and Development (BMZ) (1,410,000 USD) 2012 to 2014
- Physiological and molecular characterization of rice hybrids to heat stress. Funded by Scientific and Knowledge Exchange Program - Bayer Crop Science (375,000 USD) 2013 to 2015
- Transcriptional and metabolic alterations in circadian rhythm networks with increasing night-time temperatures in rice. Funded by USDA/NIFA (438, 000 USD) 2014 to 2017 (PIs – Dr Doherty from NCSU, USA and Dr Jagadish from IRRI)

- Free Air CO_2 enrichment (FACE) and temperature interaction in a rice-rice cropping system. Funded by ICAR-IRRI collaborative project (300,000 USD) 2013 to 2016
- Drought- and heat-stress recovery for partial mitigation of climate change-driven losses in rice yield and grain quality. Funded by the German Federal Ministry for Economic Cooperation and Development Small Grants Program (BMZ) (70,700 USD) 2014 to 2015
- Rice pollen lipidomic and metabolite re-programming under heat stress. Funded by US (KSU) - CGIAR (IRRI, Philippines) Universities Linkage Program (15,000 USD) for 2013
- Breeding heat-tolerant rice cultivars for sub-Saharan Africa: understanding the genetics of oxidative stress tolerance. Funded by US (University of Florida) - CGIAR (IRRI] Universities Linkage Program (12,000 USD) for 2014

As Co-PI, PI*

- Dr. Impa Somayanda (Department of Plant and Soil Science) Quantifying fiber quality traits in diverse cotton varieties with different maturity classes and irrigation levels under field conditions. Funded by Texas State Support Cotton ($28,000) from 2023 to 2024
- Dr. Yinping Jiao (PSS) Developing sorghum with dual benefits for climate-smart sustainable agriculture and human health. Funded by TTU Davis College Planning Grant ($50,000) from 2024 to 2025.
- Dr Muntazar Monsur (Department of Landscape Architecture, TTU), Davis XR (Extended Reality) Innovation Center: Envisioning A High-Tech Facility to Advance Transdisciplinary Collaborations in Davis CASNR and Beyond. Funded by Davis College Texas Tech (50,000 USD) from 2023 to 2024
- Dr. Mauricio Ulloa, (USDA ARS, Lubbock) Elucidation of biological mechanisms of cotton responses and interactions to environmental and disease threats to achieve agriculture sustainability. Funded by USDA-TTU (100,000 USD) from 2023 to 2025
- Dr. Yinping Jiao (Department of Plant and Soil Science, TTU). Characterization of a novel mutant population for global sorghum improvement. Funded by USDA-TTU (100,000 USD) from 2023 to 2025
- Dr. Donna McCallister* (Department of Agricultural Economics, TTU), Water conservation using cover crops, crop rotations, and irrigation technology to improve soil health. Funded by Texas Water Development Board (325, 642 USD) 2022 to 2023
- Dr Gunvant Patil* (Department of Plant and Soil Science [IGCAST], Optimizing root system architecture of cotton cultivars for improving adaptative response to water-deficit stress. Funded by Texas State Support Cotton (82,000 USD) 2022-2025
- Dr Behzad Ghanbarian*(Department of Geology, KSU), NSF EAGER – Real-time measurement of sap-flow dynamics in sunflower via nuclear magnetic resonance. Funded by National Science Foundation (300,000 USD) 2019 to 2021
- Dr. Doina Caragea*(Department of Computer Science, KSU), Performing novel high-throughput quantification of rice chalkiness using deep learning approaches. Funded by Global Food Seed Grants (40,195 USD) 2020 to 2021
- Dr William Schapaugh* (Department of Agronomy, KSU), Integrating germplasm evaluation, breeding and physiology to improve post-flowering heat-stress resilience in soybean. Funded by USDA-NIFA (500, 000 USD) 2020 to 2023
- Dr. Doohong Min*(Department of Agronomy, KSU), Establishing the value of alfalfa with highly digestible fiber. Funded by USDA-NIFA (500,000 USD) 2019 to 2021
- Prof. Steve Welch*(Department of Agronomy, KSU), RII Track-2 FEC: Building field-based eco-physiological genome-to-phenome prediction. Funded by National Science Foundation (4,000,000 USD) 2018 to 2022

- Prof. Ruth Welti*(Department of Biology, KSU), MRI: Acquisition of an electrospray ionization triple quadrupole mass spectrometer with ion mobility spectrometry for improved plant lipidomics. Funded by National Science Foundation (496,823 USD) 2017 to 2020
- Dr. Sunghun Park*(Department of Horticulture, KSU), Field performance to develop genetically engineered drought and heat tolerant Kansas corn. Funded by Kansas Corn Commission (49,450 USD) 2017 to 2018
- Dr. Robert Aiken*(Department of Agronomy, KSU), New selection strategies for drought-tolerant wheat. Funded by Kansas Wheat Alliance (75,600 USD) 2015 to 2018
- Dr. Ray Asebedo*(Department of Agronomy, KSU), Breaking Barriers: Developing tools for moving Kansas irrigated soybeans beyond 70 bushels per acre. Funded by the Kansas Soybean Commission (49,265 USD) 2016 to 2017
- Dr. Ignacio Ciampitti*(Department of Agronomy, KSU), N management approaches for maximizing yield and Nitrogen Use Efficiency (NUE) in corn. Funded by The Kansas Fertilizer Fund Administrative Council (60,000 USD) 2016 to 2017
- Dr. Kulvinder Gill*(Molecular Plant Sciences, WSU), Developing and enhancing heat tolerance in wheat using genomics, molecular and physiological tools. Funded by USAID Feed the Future Lab (460,602 USD) 2014 to 2019
- Dr. Michael Stamm*(Department of Agronomy, KSU), Heat and drought effects on the oil formation of Southern Great Plains winter canola. Funded by USDA NIFA (269, 999 USD) 2016 to 2019
- Dr. Ajay Sharda*(Department of Biological and Agricultural Engineering, KSU), Testing and evaluation services agreement. Funded by CNH Industrial America LLC (126,800 USD) 2016 to 2018
- Dr. Tesfaye Tesso*(Department of Agronomy, KSU), Breeding sorghum for improved dryland productivity and utilization. Funded by Kansas Sorghum Commission (443,558 USD) 2016 to 2018
- Dr. Dirk Hincha*(Max Planck Institute, Germany), Rice and global climate change: Candidate genes for preventing heat- and drought-induced yield losses due to spikelet sterility. Funded by the German Federal Ministry for Economic Cooperation and Development Small Grants Program (BMZ) (70,000 USD) 2008 to 2010
- Involved as one of the key staff in the successful write up of the heat tolerance component (Objective 3) of the Cereal Systems Initiative for South Asia II. Funded by USAID/BMGF (36M USD) 2013 to 2015
- Impact of local climatic conditions on rice spikelet fertility and grain quality in hot and vulnerable regions of India - a feasibility study. Funded by JIRCAS President's incentive project (32,000 USD) 2011 to 2012

PhD fellowships

- Project titled "Sorghum and Pearl Millet as Sustainable Alternative Forage Options for Water Limited Environments" Graduate student – Ms. Alondra Cruz from Texas Tech University, Funded by CH Foundation ($56,000 from 2024 to 2026)
- Project titled "Growing rice like wheat" – in collaboration with Wageningen University, Netherlands; Graduate student – Mr. Niteen Kadam (2012-2015)
- Lee foundation scholarship – in collaboration with University of Illinois, USA; Graduate student – Mr. Partibhan Thatapalli (2014-2015)
- China Scholarship Council – in collaboration with Hunan and Huazhong Universities, China; Graduate student - Mr. Jianquan Qin (2012 – 2014)

Peer-reviewed Publications (Total = 186; *Senior/Corresponding author, #Graduate student, $Post-Doctoral Fellow); Citations – 16508 and H index – 72

2024: Baral R, **Jagadish SVK**, Hein N[#], Lollato RP, Shanoyan A, Giri AK, Kim J, Kim M, Min D. 2024. Exploring the impact of soil water variability and varietal diversity on alfalfa yield, nutritional quality, and farm profitability. Grassland Research, 2(4), 266-278. DOI: 10.1002/glr2.12067

2024: Ostmeyer T[#], Impa SM, Peiris KHS, Bean SR, Ritchie G, **Jagadish SVK***. 2024. Grain protein and amino acid dynamics in sorghum with in-season split-nitrogen application. Cereal Chemistry, DOI:10.1002/cche.10783

2024: Kundu S, Saini DK[$], Meena RK, Bahuguna RN, **Jagadish SVK***. 2024. High-throughput phenotyping and AI technologies for deciphering crop resilience to heat stress. Plant Physiology Reports, 29, 699-715.

2024: Buse KK, Carroll AL, Bradford BJ, Min D, **Jagadish SVK**, Kononoff PJ. 2024. The effect of replacing conventional alfalfa hay with lower-lignin alfalfa hay on feed intake, nutrient digestibility, and energy utilization in lactating Jersey cows. Journal of Dairy Science, 107, 9379-9389.

2024: Cruz A[#], Saini DK[$], Aviles D[#], Norris A, **Jagadish SVK***. 2014. Sorghum and pearl millet as sustainable alternative forage options for water limited environments: Opportunities and challenges. Advances in Agronomy (In press).

2024: Hein NT, Tiwari M, Kumar R, Cook L, Ostmeyer T, Somayanda IM, Ross JR, Ayalew H, Wagner D, Neilsen ML, **Jagadish SVK*.** 2024. Post-flowering high night-time temperature stress impacts physiology and starch metabolism in field-grown maize. Agrosystems, Geosciences and Environment, 7, 3, e20522.

2024: Nath DK, Mondal MK, Mojid MA, Jayasiri MMJGCN, **Jagadish SVK**, Sudhir Yadav. 2024. Assessing the role and capacity of water management organizations for ensuring delta food security in Bangladesh. International Journal of Water Governance, 11. https://doi.org/10.59490/ijwg.11.2024.6558

2024: Aviles D, Norris A, Cooper CE, Crossland W, **Jagadish SVK**. 2024. Evaluation of herd instinct tags on cattle behavior in the Trans-Pecos region of Texas. Rangelands (In press)

2024: Laosuntisuk K, Vennapusa A, Impa SM, Leman AR, **Jagadish SVK**, Doherty CJ. 2024. A normalization method that controls total RNA abundance affects the identification of differentially expressed genes, revealing bias toward morning expressed responses. The Plant Journal, https://doi.org/10.1111/tpj.16654

2024: Ali M, Haque S, Mondal MK, Hassan F, Parvin T, Bhandari H, **Jagadish SVK**, Puskar R, Yadav S, Rahman MC. 2024. Determinants of youth participation in agriculture: A case of polder farming practices in southwest coastal areas of Bangladesh. International Journal of Agricultural economics, 9 (6), 347-361. https://doi.org/10.11648/j.ijae.20240906.17

2024: Yuan A, Saini DK, Wang H, Wang S, Yang H, Chen M, Impa S, Wang H, Guo J, Wang Y, Yang Q, Liuc AX, **Jagadish SVK**, Shao R. 2024. Dynamic interplay among soil nutrients, rhizosphere metabolites, and microbes shape drought and heat stress responses in maize. Soil Biology and Biochemistry 191, 109357.

2023: Saini DK, Impa SM, McCallister D, Patil GB, Abidi N, Ritchie G, Jaconis SY, **Jagadish SVK**. 2023. High day and night temperatures impact on cotton yield and quality – current status and future research direction. Journal of Cotton Research, 6, 16, https://doi.org/10.1186/s42397-023-00154-x

2023: Kusunose Y, Rossi JJ, Sanford DAV, Alderman PD, Anderson JA< Chai Y, Gerullis MK. **Jagadish SVK**, Paul PA. Tack JB, Wright BD. 2023. Sustaining productivity gains in the face of climate change: A research agenda for US wheat. Global Change Biology, 29, 4, 926-934.

2023: Wang Y, Xuanlong Lv, Sheng D, Hou X, Mandal S, Liu X, Zhang P, Shen S, Wang P, **Jagadish SVK*,** Huang S. 2023. Heat-dependent postpollination limitations on maize pollen tube growth and kernel sterility. Plant Cell and Environment, https://doi.org/10.1111/pce.14702

2023: Ostmeyer T[#], Somayanda MI, Bean SR, Dhillon R, Hayes CM, Ritchie G, Asebedo AR, Emendack Y, **Jagadish SVK***. 2023. Impact of in-season split application of nitrogen on intra-panicle grain dynamics, grain quality and vegetative indices that govern nitrogen use efficiency in sorghum. Journal of Plant Nutrition and Soil Science, https://doi.org/10.1002/jpln.202200325

2023: Bonnot T, Somayanda I, **Jagadish SVK**, Nagel DH. 2023. Time of day and genotype sensitivity adjust molecular responses to temperature stress in sorghum. The Plant Journal, https://doi.org/10.1111/tpj.16467

2023: Obembe OS, Hendricks NP, **Jagadish SVK**. 2023. Changes in ground water irrigation withdrawals due to climate change in Kansas. Environmental Research Letters, 18, 9

2023: Tiwari M, Kumar R, Subramanian S, Doherty CJ, **Jagadish SVK***. 2023. Auxin-cytokinin interplay shape root functionality under chilling stress. Trends in Plant Science 28(4), 447-459.

2023: Ayyenar B, Kambale R, Duraialagaraja S, Manickam S, Mohanvel V, Shanmugavel P, Alagarsamy S, Ishimaru T, **Jagadish SVK**, Vellingiri G, Muthuranjan R. 2023. Developing early morning flowering version of rice variety CO 51 to mitigate the heat induced yield loss. Agriculture, 13, 553.

2023: Tang Y, Guo J, **Jagadish SVK**, Yang S, Qiao J, Wang Y, Xie K, Wang H, Yang Q, Deng L, Shao R. 2023. Ovary abortion in field-gran maize under water-deficit conditions is determined by photo-assimilation supply. Field Crops Research, 293, 108830.

2023: Andreo-Jimenez B, te Beest DE, Kruijer W, Vannier N, Kadam NN, Melandri G, **Jagadish SVK**, van der Linden G, Ruyter-Spira C, Vandenkoornhuyse P, Boumeester HJ. 2023. Genetic mapping of the root mycobiota in rice and its role in drought tolerance. Rice 16, 26.

2023: Kumari A, Sharma D, Sharma P, Sahil, Wang C, Verma V, Patil A, Md Imran, Singh MP, Kumar K, Paritosh K, Caragea D, Kapoor S, Chandel G, Grover A, **Jagadish SVK**, Katiyar-Agarwal S, Agarwal M. 2023. Meta-QTL and haplo-pheno analysis reveal superior haplotype combinations associated with low grain chalkiness under high temperature in rice. Frontiers in Plant Science 14, 1133115.

2023: Perumal R, Tesso TT, **Jagadish SVK**, Kumar V, Aiken RM, Bean SR, Smolensky D, Peiris KHS, Prasad PVV, Little CR. 2023. Registration of grain sorghum seed (A/B) and pollinator (R) parent lines for chilling and drought tolerance. Journal of Plant Registrations 17(2), 435-445.

2023: Hosseinzadehtaher, M, D'silva S, Baker M, Kumar R, Hein NT, Shadmand MB, **Jagadish SVK**, Ghanbarian B. 2023. On design challenges of portable nuclear magnetic resonance system. Journal of Nuclear Engineering 4, 323-337.

2023: Fu J, Bowden RL, **Jagadish SVK**, Prasad PVV. 2023. Genetic variation for terminal heat stress tolerance in winter wheat. Frontiers in Plant Science, 14, 1132108

2023: Impa SM*, Bean SR, Loerger BP, Hayes C, Emendack Y, Jagadish SVK. 2023. Comparative assessment of grain quality in tannin versus non-tannin sorghums in the sorghum association panel. Cereal Chemistry, 100(3), 663-674.

2023: Eckardt NA, Ainsworth EA, Bahuguna RN, Broadley MR, Busch W, Carpita NC, Castrillo G, Chory J, DeHaan LR, Duarte CM, Henry A, Jagadish SVK, Langdale J, Leakey ADB, Liao J, Lu KJ, McCann MC, McKay JK, Odeny DA, Olivieira E, Platten JD, Rabbi I, Rim EY, Ronald PC, Salt DE, Shigenaga AM, Wolfe M. 2023. Climate change challenges and plant science solutions. The Plant Cell, 35, 24-66 https://doi.org/10.1093/plcell/koac303

2023: Shi W, Zhang X, Yang J, Impa SM, Wang D, Lai Y, Yang Z, Xu H, Wu J, Zhang J, **Jagadish SVK*.** 2023. Irrigating with cooler water does not reverse high temperature impact on grain yield and quality in hybrid rice. The Crop Journal, https://doi.org/10.1016/j.cj.2022.09.006

2022: Ostmeyer TJ[#], Bahuguna RN, Kirkham MB, Bean S, **Jagadish SVK***. 2022. Enhancing sorghum yield through efficient use of nitrogen - challenges and opportunities. Frontiers in Plant Science, 13, 845443

2022: Shi W, Yang J, Kumar R, Zhang X, Impa SM, Xiao G, **Jagadish SVK*.** 2022. Heat stress during gametogenesis irreversibly damages female reproductive organ in rice. Rice, 15, 32.

2022: Ahmed Z, Shew AM, Mondal MK, Yadav S, Jagadish SVK, Prasad PVV, Buisson MC, Das M, Bakuluzzaman M. 2022. Climate risk perceptions and perceived yield loss increases agricultural technology adoption in the polder areas of Bangladesh. Journal of Rural Studies, 94, 274-286.

2022: Kumar R, Hosseinzadehtaher M, Hein N, Shadmand M, Jagadish SVK, Ghanbarian B. 2022. Challenges and advances in measuring sap flow in agriculture and agroforestry: A review with focus on nuclear magnetic resonance. Frontiers in Plant Science, 13, 1036078.

2022: Li H, Tiwari M, Tang Y, Wang L, Yang S, Long H, Guo J, Wang Y, Wang H, Yang Q, Jagadish SVK, Shao R. 2022. Metabolic and transcriptomic analyses reveal that sucrose synthase regulates maize pollen viability under heat and drought stress. Ecotoxicology and Environmental Safety, 246, 114191.

2022: Tripathi S, Bahuguna RN, Shrivastava N, Singh S, Chatterjee A, Varma A, Jagadish SVK. 2022. Microbialbiofortification: A sustainable route to grow nutrient-rich crops under changing climate. Field Crops Research, 287, 108662

2022: Kumar R[$], Bahuguna RN, Tiwari M[$], Pal M, Chinnusamy V, Sreeman S, Muthurajan R, **Jagadish SVK***. 2022. Walking through crossroads – Rice responses to heat and biotic stress interactions. Theoretical and Applied Genetics, 10.1007/s00122-022-04131-x

2022: Ayalew H[$], Peiris S, Chiluwal A, Kumar R, Tiwari M[$], Ostmeyer T[#], Bean S, **Jagadish SVK***. 2022. Stable sorghum grain quality QTL were identified using SC35 x RTx430 mapping population. The Plant Genome, https://doi.org/10.1002/tpg2.20227

2022: Carcedo AJP, Bastos LM, Yadav S, Mondal MK, **Jagadish SVK**, Kamal FA, Sutradhar A, Prasad PVV, Ciampitti I. 2022. Assessing impact of salinity and climate scenarios on dry season field crops in the coastal region of Bangladesh. Agricultural Systems, 200, 103428.

2022: Fu J, **Jagadish SVK**, Bowden R. 2022. Effects of post-flowering heat stress on chlorophyll content and yield components of a spring wheat diversity panel. Crop Science https://doi.org/10.1002/csc2.20778

2022: Sprague SA, Tamang TM, Steiner T, Wu Q, Hu Y, Kakeshpour T, Park J, Yang J, Peng Z, Bergkamp B, Impa SM, Peterson M, Garcia EO, Hao Y, Amand PS, Bai G, Nakata PA, Rieu I, Jackson DP, Cheng N, Valent B, Hirschi KD, **Jagadish SVK**, Liu S, White FF, Park S. 2022. Redox-engineering enhances maize thermotolerance and grain yield in the field. Plant Biotechnology Journal https://doi.org/10.1111/pbi.13866

2022: Mondal MK, Yadav S, Baidya B, Kahn ZH, Sutradhar A, Humphreys E, Kamal FA, **Jagadish SVK**. 2022. Evaluation of gravity-led and energy-fed drainage of sustaining food security in the polders of the coastal zone of Bangladesh. Irrigation and Drainage, https://doi.org/10.1002/ird.2698

2022: Shao R, Zhang J, Shi W, Wang Y, Tang Y, Liu Z, Sun W, Wang H, Guo J, Meng Y, Kang G, **Jagadish SVK**, Yang Q. 2022. Mercury stress tolerance in wheat and maize is achieved by lignin accumulation controlled by nitric oxide. Environmental Pollution, 307, 119488.

2022: Jaenisch BR, Munaro LB, **Jagadish SVK**, Lollato RP. 2022. Modulation of wheat yield components in response to management intensification to reduce yield gaps. Frontiers in Plant Science, 13, 772232

2022: Bahuguna NR, Chaturvedi AK, Pal M, Chinnusamy V, **Jagadish SVK***, Pareek A*. 2022. Carbon-dioxide responsiveness mitigates rice yield loss under high night temperature. Plant Physiology, 188(1), 285-300.

2022: Chiluwal A[#], Perumal R, Poudel HP, Muleta K[$], Ostmeyer T[#], Fedenia L, Pokharel M[#], Bean SR, Sebela D, Bheemanahalli R[$], Oumarou H, Klein P, Rooney WL, **Jagadish SVK***. 2022. Genetic control of source-sink relationships in grain sorghum. Planta 255, 40.

2022: Tiwari M[$], Singh B, Min D, **Jagadish SVK***. 2022. Omics path to increasing productivity in less-studies crops under changing climate – Lentil a case study. Frontiers in Plant Science. 13, 813985.

2022: Wang C, Caragea D, Narayana NK, Hein NT[#], Bheemanahalli R[$], Somayanda IM, **Jagadish SVK**. 2022. Deep learning based high-throughput phenotyping of chalkiness of rice exposed to high night temperature. Plant Methods 18, 9.

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2015: Ye C, Tenorio FA, Redoña ED, Morales–Cortezano PS, Cabrega GA, **Jagadish SVK**, Gregorio GB. 2015. Fine-mapping and validating qHTSF4.1 to increase spikelet fertility under heat stress at flowering in rice. Theoretical and Applied Genetics, 128, 1507-1517.

2015: Xia L, Lawas LMF[#], Malo R, Glaubitz U, Erban A, Mauleon R, Heuer S, Zuther E, Kopka J, Hincha DK*, **Jagadish SVK***. 2015. Metabolic and transcriptomic signatures of rice floral organs reveal sugar starvation as a factor in reproductive failure under heat and drought stress. Plant Cell and Environment, 38, 2171-2192.

2015: Peraudeau S[#], Lafarge T, Roques S, Quinones C[#], Clément-Vidal A, Ouwerkerk P, Van Rie J, Fabre D, **Jagadish SVK**, Dingkuhn M*. 2015. Effects of carbohydrates and night temperature on night respiration in rice. Journal of Experimental Botany, 66, 3931-3944.

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2015: Bahuguna RN[$], **Jagadish SVK***. 2015. Temperature regulation of plant phenological development. Environmental and Experimental Botany, 111, 83-90.

2015: Bahuguna RN[$], Jha J, Madan P, Shah D, Lawas ML[#], Khetarpal S, **Jagadish SVK***. 2015. Physiological and biochemical characterization of NERICA-L 44: A novel source of heat tolerance at the vegetative and reproductive stages in rice. Physiologia Plantarum, 154, 543-559.

2015: Shi W[#], Ishimaru T, Gannaban RB, Oane W, **Jagadish SVK***. 2015. Popular rice (*Oryza sativa* L.) cultivars show contrasting responses to heat stress at gametogenesis and anthesis. Crop Science, 55, 589-596.

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2015: Peraudeau S, Roques S, Quiñones C[#], Fabre D, Van rie J, Ouwerkerk PBF, **Jagadish SVK**, Dingkuhn M, Lafarge T. 2015. Increase in night temperature in rice enhances respiration rate without significant impact on biomass accumulation. Field Crops Research, 171, 67-78.

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2014: Coast O[#], Ellis RH, Murdoch AJ, Quiñones C[#], **Jagadish SVK***. 2014. High night temperature induces contrasting responses for spikelet fertility, spikelet tissue temperature, flowering characteristics and grain quality in rice. Functional Plant Biology, 42, 149-161.

2014: **Jagadish SVK***, Murty MVR, Quick WP. 2014. Rice responses to raising temperatures – challenges, perspectives and future directions. Plant Cell and Environment, 38(9),1686-1698.

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2013: **Jagadish SVK***, Craufurd P, Shi W[#], Oane R. 2013. A phenotypic marker for quantifying heat stress impact during microsporogenesis in rice (*Oryza sativa*). Functional Plant Biology, 41, 48-55.

2013: Lyman NB, **Jagadish SVK***, Nalley LL, Dixon BL, Siebenmorgen T. 2013. Neglecting rice milling yield and quality underestimates economic losses from high-temperature stress. PLoS ONE, 8(8), e72157.

2013: Qin J[#], Impa SM, Tang Q, Yang S, Yang J, Tao Y, **Jagadish SVK***. 2013. Integrated nutrient, water and other agronomic options to enhance rice grain yield and N use efficiency in double-season rice crop. Field Crops Research, 148, 15–23.

2013: Shi W[#], Muthurajan R, Rahman H, Selvam J, Peng S, Zou Y, **Jagadish SVK***. 2013. Source–sink dynamics and proteomic reprogramming under elevated night temperature and their impact on rice yield and grain quality. New Phytologist, 197, 825–837.

2013: Craufurd PQ*, Vadez V, **Jagadish SVK**, Prasad PVV, Zaman-Allah M. 2013. Crop science experiments designed to inform crop modeling. Agricultural and Forest Meteorology, 170, 8-18.

2012: Ziska LH, Bunce JA, Shimono H, Gealy DR, Baker JT, Newton PCD, Reynolds MP, **Jagadish SVK**, Zhu C, Howden M. 2012. Food Security and Climate Change: On the potential to adapt global crop production by active selection for rising atmospheric carbon dioxide concentration. Proceedings of the Royal Society (Biological sciences), 279, 4097–4105.

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2012: Madan P, **Jagadish SVK***, Craufurd PQ, Fitzgerald M, Lafarge T, Wheeler TR. 2012. Effect of elevated CO_2 and high temperature on seed-set and grain quality of rice. Journal of Experimental Botany, 63, 3843-3852.

2011: **Jagadish SVK***, Cairns JE, Kumar A, Somayanda IM, Craufurd PQ. 2011. Does susceptibility to heat stress confound screening for drought tolerance? Functional Plant Biology, 38, 261–269.

2011: **Jagadish SVK**, Muthurajan R, Rang ZW, Malo R, Heuer S, Bennett J, Craufurd PQ. 2011. Spikelet proteomic response to combined water deficit and heat stress in rice (*Oryza sativa* cv. N22) Rice, 4, 1-11.

2011: Cairns JE, Impa S, O'Toole JC, **Jagadish SVK**, Price AH. 2011. Influence of the soil physical environment on rice (*Oryza sativa* L.) response to drought stress and its implications for drought research. Field Crops Research, 121, 303-310.

2011: Rang ZW, **Jagadish SVK*,** Zhou QM, Craufurd PQ, Heuer S. 2011. Effect of heat and drought stress on pollen germination and spikelet fertility in rice. Environmental and Experimental Botany, 70, 58-65.

2011: Muthurajan R, **Jagadish SVK ***, Craufurd PQ, Bennett J. 2011. Proteomic response of rice floral tissue to high temperature stress. In: Ismail A (Ed). Genes, Genomes and Genomics, 6 (1), 22-25.

2010: **Jagadish SVK**, Muthurajan R, Oane R, Wheeler TR, Heuer S, Bennett J, Craufurd PQ*. 2010. Physiological and proteomic approaches to dissect reproductive stage heat tolerance in rice (*Oryza sativa* L.). Journal of Experimental Botany, 61, 143–156.

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2010: Nagarajan S, **Jagadish SVK*,** Prasad HAS, Thomar AK, Anand A, Pal M, Agarwal PK. 2010. Local climate affects growth, yield and grain quality of aromatic and non-aromatic rice in northwestern India. Agriculture Ecosystems and Environment, 138, 274-281.

2010: Muthurajan R, Shobbar ZS, **Jagadish, SVK*,** Bruskiewich R, Ismail A, Leung H, Bennett J. 2010. Physiological and proteomic responses of rice peduncles to drought stress. Molecular Biotechnology, 48, 173-182.

2009: Wassmann R*, **Jagadish SVK**, Heuer S, Ismail A, Redoña E, Serraj R, Singh RK, Howell G, Pathak H, Sumfleth K. 2009. Climate change affecting rice production: The physiological and agronomic basis for possible adaptation strategies. Advances in Agronomy, 101, 59-122.

2009: Wassmann R*, **Jagadish SVK**, Sumfleth K, Pathak H, Howell G, Ismail A, Serraj R, Redona E, Singh RK, Heuer S. 2009. Regional vulnerability of rice production in Asia to climate change impacts and scope for adaptation. Advances in Agronomy, 102, 91-133.

2008: **Jagadish SVK**, Craufurd PQ*, Wheeler TR. 2008. Phenotyping rice mapping population parents for heat tolerance during anthesis. Crop Science, 48, 1140–1146.

2007: **Jagadish SVK**, Craufurd PQ*, Wheeler TR. 2007. High temperature stress and spikelet fertility in rice. Journal of Experimental Botany, 58, 1627-1635.

Key Book Chapters

1. Ye C, Li X, Redona E, Ishimaru T, **Jagadish SVK**. 2021. Genetics and breeding of heat tolerance in rice. In: Rice improvement. Published by Springer. pp. 203-220. DOI: 10.1007/978-3-030-66530-2_7
2. Prasad PVV, Maduraimuthu D, **Jagadish SVK**, Ciampitti I. 2018. Drought and high temperature stress and traits associated with tolerance. In: Sorghum: State of the art and future perspectives. Published by: American Society of Agronomy and Crop Science Society of America, Inc. pp. 155-187. doi:10.2134/agronmonogr58.2014.0065
3. Tesso T, Gobena DD, Dechassa OD, Roozeboom K, **Jagadish SVK**, Perumal R, Serba DD, Weerasooriya D. 2018. Harnessing genetic/genomics resources to transform the production and productivity of sorghum. In: Achieving sustainable cultivation of sorghum – Vol. 1. Ed. Dr. Bill Rooney Burleigh Dodds Science Publishing Limited. pp. 241-265. http://dx.doi.org/10.19103/AS.2017.0015.09
4. Bahuguna RN, **Jagadish SVK***, Coast O, Wassmann R. 2014. Plant Abiotic Stress: Temperature Extremes. In: Neal Van Alfen, editor-in-chief. In: Encyclopedia of Agriculture and Food Systems, Vol. 4, San Diego: Elsevier, pp. 330-334.

5. Craufurd PQ, **Jagadish SVK**, Jon Padgham. 2011. Impacts of climate change on rainfed agriculture and adaptation strategies to improve livelihoods. In: Integrated Watershed Management in Rainfed Agriculture; Eds Wani SP, Rockstrom J and Sahrawat KL. CRC Press, pp. 421-437.
6. Impa SM, Nadarajan S, **Jagadish SVK*.** 2011. Drought stress induced reactive oxygen species and anti-oxidants in plants. In: Abiotic Stress Responses in Plants: Metabolism, Productivity and Sustainability. Eds. P. Ahmad and M.N.V. Prasad. pp 131-148.

Accolades and appreciations

1. **KSU Gamma Sigma Delta Outstanding Research Award (**2021)
2. **International Fellow of the Indian Society of Plant Physiology (**2021)
3. **Prof. G.V. Joshi Memorial Award (2024)** presented by Indian Society of Plant Physiology
4. **Discipline Chair (Agronomy and Physiology) for SICNA (Sorghum Improvement Conference of North America)** 2022-2024
5. **Board member -** AASIO (Association for Agricultural Scientists of Indian Origin; USA); 2021 - present
6. **Outstanding Young Agricultural Scientist Award -** AASIO (Association for Agricultural Scientists of Indian Origin; USA) in 2015.
7. One among the top 2% scientists globally recognized for highest citations in 2019, 2020 https://journals.plos.org/plosbiology/article?id=10.1371/journal.pbio.3000918
8. **THE FELIX SCHOLARSHIP** for doctoral studies at the University of Reading, UK (Sept. 2003 - Mar. 2007).
9. **PhD affiliate research scholar** to work on Azucena x Bala rice mapping population in response to heat stress during anthesis at the International Rice Research Institute (IRRI), Philippines (Dec. 2004 - Apr. 2005)
10. **PhD affiliate research scholar** at IRRI to work on various physiological processes involved and affected by heat stress during reproductive stage in rice and anther, spikelet proteomics (Jan. 2006 - Nov. 2006)
11. **Arthur Hosier and Meyer Sassoon travel award** in 2006 to travel to Philippines to work on reproductive stage proteomics
12. Travel grant from the **Society of Experimental Biologists** (**Company of Biologists**) to attend Interdrought II in Rome, Italy (Sept. 24-28, 2005).
13. **Merit scholarship** for highest OGPA (Overall Grade Point Average) during Master's, University of Agricultural Sciences, Dharwad, India.
14. **Jindal Trust** scholarship for academic excellence during Bachelor's, University of Agricultural Sciences, Bangalore, India.

Certification

PRINCE II Project Management (HiLogic Inc., 2012)

Associate Editor, Editorial board member and reviewer

- ***Co-Editor in Chief for Plant Physiology Reports (2024 – Continuing)***
- ***Associate Editor for Field Crops Research (2020 - Continuing)***
- ***Overseas Editor for Plant Physiology Reports (2016 - Continuing)***
- ***Associate Editor for Agronomy Journal (2016 - 2021)***
- ***Guest Editor for Plant Cell and Environment (Special issue on Heat Waves; Published July 2021)***
- ***Associate Editor for Frontiers in Plant Science (2016 - 2017)***
- ***Associate Editor for Plant Production Science (2016 - 2018)***
- ***Editorial board member for Field Crops Research (2014 - 2020)***

Reviewer for (1) Crop Science (2) Agricultural and Forest Meteorology (3) Planta (4) Plant Physiology and Biochemistry (5) Annals of Botany (6) Field Crops Research (7) Euphytica (8) Netherlands Journal of Agricultural

Sciences (9) Crop and Pasture Science (10) Functional Plant Biology (11) Global Change Biology (12) Journal of Experimental Botany (13) Journal of Science of Food and Agriculture (14) AoB Plants, (15) Biologia Plantarum (16) Plant Science (17) Climatic Change (18) Experimental Agriculture (19) PLOS one (20) Proceedings of the National Academy of Sciences, USA (21) Scientific Reports (22) Computers and Electronics in Agriculture(23) Agronomy Journal (24) Plant Cell and Environment

Guest editor for special issues

Plant Cell and Environment (Title - "Heat Waves") July 2021
Plant Physiology Reports (Title – "Heat stress on crop growth and development") Dec 2020

Reviewer of proposals

- Wageningen University, The Netherlands, NWO domain Applied and Engineering Sciences
- NSF CAREER
- Foundation for Food and Agriculture Research (2020)
- Foundation for Food and Agriculture Research – New innovator award (2021)
- American Association for the Advancement of Science (2020)
- USDA NIFA post-doctoral fellowships (2021)

External thesis reviewer

- University of Melbourne, Australia
- Australia National University, Canberra, Australia
- Southern Cross University, New South Wales, Australia
- The University of Western Australia, Perth, Australia
- SRM University, Chennai, TamilNadu, India

Scientific advisory committee

- Member of the International Scientific Advisory Committee for "International symposium on plant biotechnology towards improving agri-food industry and healthcare products", Birla Institute of Technology, Mesra, Ranchi, Jharkhand, India.

Membership to societies

- Crop Science Society of America
- American Society of Agronomy
- American Association for the Advancement of Science (2019)
- Life member for Association of Agricultural Scientists of Indian Origin (AASIO, USA)
- Life member of Indian Society of Plant Physiology
- Gamma Sigma Delta
- North American Plant Phenotyping Network
- American Forage and Grassland Council (AFGC)

Mentored/Mentoring

Research Assistant Professor

- Dr. Jianming Fu (Apr. 2016 – Feb. 2022)

Post Docs

- Dr. Ritesh Kumar (Mar 2021 – Aug 2022)
- Dr. Manish Tiwari (Feb. 2021 – Feb. 2022)
- Dr Habtamu Tamir (Jun 2021 – Feb. 2022)
- Dr. Kamaranga Peiris (Oct. 2017- Aug. 2020)
- Dr. Assefa Yared (Sept. 2019 - Dec. 2020)
- Dr. Andre Diatta (Jul. 2020 - Jan 2021)
- Dr. Rajeev Bahuguna (Jan. 2013 - Dec. 2014)

- Dr. John Sunoj V. Sebastian (Jul. 2015 - Dec. 2016)
- Dr. Raju R Bheemanahalli (Jun. 2014 - May 2020)
- Dr Josh Massey (Mar 2023 - Current)
- Dr Dinesh Saini (Mar 2023 - Current)
- Dr Juliana Espindola (Apr 2023 – Current)
- Dr Mukesh Mehla (July 2023 – Current)

Research Assistants and Assistant Scientist
- Mr. Nathan Hein (Mar. 2018 - Continuing)
- Dr. Pavitra Pitumpe Arachchige (Apr. 2017 - Oct. 2018)
- Dr. David Sebela (Oct. 2017 - Dec. 2018)
- Dr. Amaranatha Reddy Vennapusa (Apr. 2018 - Sept. 2020)
- Dr. Nisarga Narayana (Mar. 2019 - May 2020)

Short term visitors
- Ms. Yuanyuan Wang from China (Oct. 2019 - Feb. 2021)
- Mr. Gautam Saripalli from India (Jun. 2016 - Oct. 2016)
- Mr. Halilou Oumarou from Niger, Africa (Jul. 2016 - Dec. 2016)
- Ms. Naghmey Moghimi from Iran (Jan. 2017 - Aug. 2018)
- Dr. Hanafey Maswada from Egypt (Sept. 2015 - Feb. 2016)
- Dr. Aiqing Sun from China (Jul. 2015 - Jul. 2016)
- Dr. Wang Dong from China (Oct. 2016 - Oct. 2017)
- Mr Dhanush Srikanthan from India (Jan. 2019 - Jun. 2019)
- Dr. Yasuhiro Usui from Japan (Apr. 2018 - May 2018)
- Dr. Kirti Bhardan from Navsari University, Gujarat, India (Feb 2024 to March 2025)
- Dr. Senthilkumar Palanisamy from SRM University, Chennai, India (Aug 2024 to Jan 2025)

M.S. Students
- Nathan Lyman, University of Arkansas, USA (2010 - 2012)
- Wanju Shi, Hunan Agriculture University, China (2010 - 2012)
- Lovely Mae Lawas, University of Los Banos, Philippines (2011 - 2014)
- Bermenito Punzalan, University of Los Banos, Philippines (2010 - 2013)
- Lisa Straussberger, University of Arkansas, USA (2013 - 2015)
- Reshma Anthony, Kansas State University, USA (Spring 2016 - Summer 2018)
- Cherryl Quinones, University of Los Banos, Philippines (2013 - 2016)
- Blake Bergkamp, Kansas State University, USA (Fall 2015 - Fall 2017)
- Carlos Bustamante, Kansas State University, USA (Fall 2015 - Summer 2020)
- Troy Ostemeyer, Kansas State University, USA (Fall 2018 - Spring 2020)
- Lee Fischel, Texas tech University, USA (Spring 2024 – Summer/Fall 2026)
- Yusa Ichinose, Texas Tech University, USA (Spring 2024 – Summer/Fall 2026)

Ph.D. Students
- Zhongwen Rang, Hunan Agriculture University, China (2008 - 2010)
- Richard Malo, Dhaka University, Bangladesh, (2009 - 2012)
- Onoroido Coast, University of Reading, UK (2009 - 2012)
- Jianquan Qin, Hunan Agricultural University, China (2011 - 2013)
- Niteen Kadam, Wageningen University, Netherlands (2012 - 2015)
- Anandan TamilSelvan, TamilNadu Agriculture University, India (2011 - 2014)
- Wanju Shi, Wageningen University, Netherlands (2013 - 2016)
- Nico Mattes, Heidelberg University, Germany (2013 - 2016)
- David Sabela, Nové Hrady, Czech Republic (2013 - 2014)
- Regina Enninful, (BHEARD scholar), Kansas State University, USA (Spring 2014 - Spring 2019)
- Anuj Chiluwal, Kansas State University, USA (Spring 2016 - Fall 2018)
- Aaron M Shew, University of Arkansas & Kansas State University, USA (Fall 2013 - Summer 2018)
- Meghnath Pokharel, Kansas State University, USA (Spring 2017 - Spring 2020)
- Troy Ostmeyer, Texas Tech University, USA (Summer 2020 - Fall 2023)
- Nathan Hein, Kansas State University, USA (Fall 2018 - Spring 2023)
- Alondra Cruz, Texas Tech University, USA (Fall 2022 – Fall 2025)
- Mayank Bangari, Texas Tech University, USA (Spring 2023 – Spring 2026)

- Teja Sadapalli, Texas Tech University, USA (Fall 2024 – Spring 2028)

Undergraduate students
- Ethan Meyers, Texas Tech University (Aug 2022 – till date)
- Christian Barbosa, Texas Tech University (Aug 2023 – till date)
- Lee Fischel, Texas Tech University (Jan 2023 to Jan 2024)
- William Searfass, Texas Tech University (Jan 2024 – till date)
- Ethan Jakle, Texas Tech University (Aug 2024 – till date)
- Slate Perez, Texas Tech University (Aug 2024 – till date)
- Ellis Taylor, Texas Tech University (Aug 2024 – till date)

Advisory Committee Member
- Mokhlesur Rahman (PhD) Major Advisor – Dr. Jesse Poland, Dept. of Pathology [Completed]
- Jared Kohls (MS) Major Advisor – Dr. Allan Fritz, Dept. of Agronomy [Completed]
- Noortje Notenbaert (MS) Major advisor – Dr. Charles Rice, Dept. of Agronomy [Completed]
- Anju Giri (PhD) Major Advisor – Dr. Allan Fritz, Dept. of Agronomy [Completed]
- Fanna M Mamadou (PhD) Major Advisor – Dr. Geoffery Morris, Dept. of Agronomy [Completed]
- Iryna McDoland (PhD) Major Advisor – Dr. Doohong Min, Dept. of Agronomy [Completed]
- Jessica McGowen (MS) Major Advisor – Dr. Allan Fritz, Dept. of Agronomy [Completed]
- Ethan Menke (MS) Major Advisor – Dr. Schapaugh, Dept. of Agronomy [Completed]
- Xuan Xu (PhD) Major Advisor – Dr. Doohong Min, Dept. of Agronomy [Completed]
- Jacob Schwindt (MS) Major Advisor – Dr. Ajay Sharda, Dept. of Ag. Engineering [Completed]
- Brent Jaenisch (PhD) Major Advisor – Dr. Romulo Lolatto, Dept. of Agronomy [Completed]
- Francis Tsiboe (PhD) Major Advisor – Dr. Jesse Tack, Dept. of Economics [Completed]
- Kristen Kimbrell (MS) Major Advisor – Dr. Allan Fritz, Dept. of Agronomy [Completed]
- Chaoxin Wang (PhD) Major Advisor – Dr. Doina Caragea, Dept. of Computer Sci. [Completed]
- Rudra Baral (PhD) Major Advisor – Dr. Doohong Min, Dept. of Agronomy [Completed]
- Raavi Arora (PhD; TTU) Major Advisor – Dr Lindsey Slaughter, Dept of Plant and Soil Science
- Adil Khan (PhD TTU) Major Advisor – Dr. Yinping Jiao, IGCAST (Dept of Plant and Soil Science)
- Md Mezanur Rahman (PhD, TTU) Major Advisor - Dr. Son Tran, IGCAST (Dept of Plant and Soil Science)
- Nasir Khan (MS, TTU) Major Advisor - Dr. Yinping Jiao, IGCAST (Dept of Plant and Soil Science)
- Pawan Devkota (PhD, TTU) Major Advisor – Dr Natasja Van-Gestel (Dept. of Biological Sciences)
- Jacob Arey (MS, TTU) Major Advisor – Dr Robert Cox (Dept. of Natural Resources M'ment)
- Zoilo Roy Perez (UT) Major Advisor – Dr Avat Shekoofa (Dept.of Plant Sciences)
- Oluwatola Adedeji (TTU) Major Advisor – Dr Wenxuan Guo (Dept. of Plant and Soil Science)
- Swaraj Pramanik (KSU) Major Advisor – Dr. Doina Caragea, Dept. of Computer Sci. [Continuing]

Outreach and engagement

Year	Events
2021	Girls Researching Our World (GROW) Summer Workshop Series GROW is an organization for the purpose of exposing and developing interest in STEM careers in minority and female students aged 10 – 17.
2020	GROW – "2020 Back to the Future"
2019	GROW – "Champions of Change"
2019	Kansas State University North Research Farm Fall Field Day
2019	GROW Summer Workshop Series
2018	Topeka Science and Technology Festival
2018	GROW – "The Science Behind the News"

Teaching and TEVALS at Kansas State University

AGRON 840 "Crop Physiology" and **AGRON 950 "Advanced Crop Ecology"**. AGRON 840 deals with principles of root physiology, water and nutrient uptake and transport processes, carbon metabolism (photosynthesis and respiration), reproductive physiology, growth and development, growth hormones and enzymes impacting crop production. AGRON 950 is a tailored discussion course based on the interest of the students and aims at reviewing a large volume of relevant literature, synthesizing information, and working in a collaborative team to stimulate critical thinking and to connect concepts leading to the development of a review article of publishable

quality. In addition, I have started to work on special topics through **AGRON 800 "Advanced Problems in Agronomy"** with an aim to enhance scientific writing skills among graduate students.

	AGRON 840 (Crop Physiology)								AGRON 950 (Advanced Crop Ecology	
	Fall 2015*		Spring 2017		Spring 2019		Spring 2021		Spring 2020	
Student response rate	(14/17)		(13/16)		(7/7)		(14/15)		(5/5)	
	Raw	Adj	Raw	Adj	Raw	Adj	Raw	Adj	Raw	Adj
Overall effectiveness as a teacher	4.4	3.8	4.4	4.1	4.6	4.3	4.7	4.0	4.8	4.4
Amount learned in the course	3.9	3.2	4.3	3.8	4.4	4.1	4.3	3.7	4.8	4.4
Desire to learn	4.4	3.5	4.5	4.1	4.3	3.8	4.6	3.7	5.0	4.5

**Fall 2015 was the first time I have handled a formal graduate class, just three months after making an international relocation from IRRI, Philippines*

Teaching and TEVALS at Texas Tech University (TTU)

PSS 4340 "Irrigation water management seminar series" - includes timely and relevant topics that deal with progress, challenges, and solutions developed to achieve efficient water management and enhance water conservation. The lecture series is delivered by personnel from industry, commodity commissions, producer organizations, water resource institutes and other stake holders to motivate students in the Davis college.

Texas Tech University

Fall 2022, PSS PSS 4340 Irrigation Management Seminar Section 1
Instructor: SV, Krishna Jagadish (Primary)

TEXAS TECH UNIVERSITY

There were: 13 possible respondents.

	Question Text	N	Avg	PSS Avg	Col Avg	Sch Avg	Str Agree	Agree	Neutral	Disagree	Str Disagree
1	1 Instructor followed course objectives	5	4.8	4.6	4.5	4.5	80%	20%	0%	0%	0%
							Str Agree	Agree	Neutral	Disagree	Str Disagree
2	2 Overall Instructor effectiveness	5	4.8	4.5	4.4	4.4	80%	20%	0%	0%	0%
							Str Agree	Agree	Neutral	Disagree	Str Disagree
3	3 Course a valuable learning experience	5	4.8	4.4	4.4	4.4	80%	20%	0%	0%	0%

PSS 3321 (undergraduate) and PSS 5328 (graduate) -

The production and use of forage plant species used for pasture, hay and silage in the U.S., with emphasis on introduced species in and around Texas. The agronomy and ecology of forage growth, development, production, nutritional quality, and grazing systems. The goals are to provide students with the scientific background that explains how to produce and manage forage crops and grazing systems that are economically profitable, meet goals for soils, plants and animals, and that are compatible with local natural resources.

Service to the department and university and scientific societies

- Chair – International Research, Plant and Soil Science, Texas Tech University (Nov 2024 – Continuing)
- Member – Task force International Centre for Arid and Semi Arid Land Studies, TTU (Jan 2024 – Continuing)
- Chair – P & T committee for Assistant Professor Dr Kalavathy Rajan, FBRI, Texas Tech University
- Chair - Department of Agronomy COVID Research Ramp-up Committee, KSU (2020 - 2022) (Oversaw the review and completion of the department wide ramp-up plan and 32 faculty research ramp-up plans; currently working on the same to incorporate revisions for Fall 2020)
- Co-Chair for the Expert Working Group – Adaptation of Wheat to Abiotic Stresses (EWG-AWAS) https://www.wheatinitiative.org/adaptation-of-wheat-to-abiotic-stress/
- Incoming chair– CSSA C2 Division (Crop Physiology and Metabolism), 2020.

- Chair– CSSA C2 Division (Crop Physiology and Metabolism), 2021.
- Organized and moderated a joint C2 and C9 symposium on "Bridging Grain Development & Quality. ASA-CSSA-SSSA annual meeting (virtual), Nov. 8-11, 2020, Phoenix, AZ. Speakers included *Harkamal Walia* from University of Nebraska-Lincoln and *Nese Srinivasulu* from International Rice Research Institute, Philippines.
- Organized and moderated a joint C2 and C7 symposium on "heat stress". ASA-CSSA-SSSA annual meeting, Nov. 4-7, 2018, Baltimore, MD. Excellent speakers (70 to 100 attendees) from both US and international, including *Matthew Reynolds*, CIMMYT, Mexico; *Dirk Hincha*, Max Planck, Germany; *Ivo Rieu*, University of Nijmegen, Netherlands; *Harkamal Walia*, UNL; *Kulvinder Gill*, Washington State University and *Fernanda Dreccer*, CSIRO, Australia.
- Generated 10,000$ as sponsorship from Vulpes Agricultural for a symposium that brought academia and industry players together to advance nontechnology in agriculture at Salt Lake City during 2021 annual meeting. The symposium was titled "Nanoparticles – Route to enhance nutrient use efficiency and abiotic stress tolerance" with renowned speakers including *Jorge L Gardea-Torresdey*, University of Texas, El Paso; *Xiaoping Xin*, University of Florida; Jason C. White, Connecticut Ag. Experiment Station, CT; and David W. Britt, Utah State University.
- **Panelist** on "Career Path Opportunities for Students, Post-Docs, and Early Career Members" during ASA-CSSA-SSSA annual meeting in 2016, Phoenix, Arizona
- **Panelist** on "Career Path Opportunities for Students, Post-Docs, and Early Career Members" during ASA-CSSA-SSSA annual meeting in 2017, Tampa, Florida
- Member - **Kansas River Valley, KSU** (2020 - 2022)
- Member - **Variety Performance Testing Advisory, KSU** (2020 - 2022)
- Member - **E.G. Heyne Crop Science Lectureship, KSU** (2020 - 2022)
- Member - **KSU Sarachek Graduate Fellowship committee, KSU** (2016 - 2022)
- Member - **Graduate Scholarship Committee in Agronomy, KSU** (2016 - 2022)
- Chair - **Chuck and Sue Rice International Lectureship, KSU** (2015 - 2018)
- Member - **Agronomy Farm Advisory Committee, KSU** (2018 - 2019)
- Member - **International Agriculture Committee, KSU** (2017, 2019)
- Member – **Search committee for the Associate Dean of Research**, TTU (2023)

Professional placements of members from Dr. Jagadish team

Name	Graduate institute	Year of graduation	Employment status
Dr. Nathan Hein	Kansas State University, USA	2022 (PhD)	Bayer CropScience
Dr. Meghnath Pokharel	Kansas State University, USA	2020 (PhD)	Post-doctoral Fellow, Uni. of Missouri
Mr. Blake Bergkamp	Kansas State University, USA	2017 (MS)	Sales Agronomist, Great Plains Mfg. Salina, Kansas, USA
Mr. Carlos Bustamante	Kansas State University, USA	2020 (MS)	CropQuest; Crop Consultant
Dr. Anuj Chiluwal	Kansas State University, USA	2018 (PhD)	Post-doctoral Fellow, Uni of Florida
Dr. Aaron M Shew	University of Arkansas, USA	2018 (PhD)	Chair of Agricultural Business at A-State, Arkansas, USA
Dr. Raju Bheemanahalli	University of Agricultural Sciences, Bangalore, India	2013 (PhD)	Research Assistant Professor, Mississippi State University, USA
Dr. Onoroide Coast	University of Reading, UK	2013 (PhD)	Lecturer in Crop Science, University of New England, Australia
Dr. Rajeev Bahuguna	G. B. Pant University of Agriculture and Technology, Uttarakhand, India	2009 (PhD)	Assistant Professor, Dr. Rajendra Prasad Central Agricultural University, Samastipur, India
Dr. Ashish Chaturvedi	HNB Garhwal Central University, Srinagar Garhwal, Uttarakhand, India	2012 (PhD)	Scientist B, Centre for Water Resources Development and Management, Kozhikode, Kerala, India

Dr. Niteen Kadam	Wageningen University, Netherlands	2017 (PhD)	Post Doc, Dr Leaky lab, IUIC, Illinois, Urbana, USA
Dr. Wanju Shi	Wageningen University, Netherlands	2017 (PhD)	Lecturer, Hunan Agricultural University, Hunan, China
Dr. Jian Qin	Hunan Agricultural University, China	2014 (PhD)	Associate Professor, Guizhou University, Guizhou, China

Key invited presentations

2024: **Jagadish SVK**. Dec 17, 2024. Image and cyber physical systems-based phenotyping of complex physiological traits aimed at crop improvement. Keynote – G.V. Joshi Memorial Lecture Award. National Conference of Plant Physiologists, Kerala, India.

2023: **Jagadish SVK**. June 7, 2023. Transforming grain sorghum's yield potential and grain quality through trait-based ideotype breeding. 2nd Global Sorghum conference, Montpellier, France.

2023: **Jagadish SVK**. June 6, 2023. Concepts for future sorghum improvement – young scientists' session. 2nd Global Sorghum conference, Montpellier, France.

2022: **Jagadish SVK**. Oct 18, 2022. Crop-forage-livestock systems for water limited environments of the Texas High Plains. USDA ARS & TTU spotlight meeting. Lubbock, TX.

2021: J**agadish SVK.** Sept. 24, 2021. A pragmatic framework to develop rice varieties with enhanced heat tolerance and yield potential. Global Rice Conference, Aduthurai, TamilNadu (Virtual)

2021: J**agadish SVK.** Mar. 17, 2021. Advances in crop phenotyping to address challenges limiting genetics gains. International webinar on Translating Physiological Tools to Augment Crop Breeding, Indian Institute on Wheat and Barley Research, Karnal (Virtual)

2020: **Jagadish SVK**. Dec. 6, 2020. Plenary Lecture on Heat stress impact on grain quality in rice and wheat. International Plant Physiology Conference (Virtual)

2019: **Jagadish SVK.** Aug. 3-7, 2019. Winter wheat responses to high night-time temperature exposure during grain-filling. Plant Biology (ASPB), San Jose, CA.

2019: **Jagadish SVK**. Apr. 24-25, 2019. Winter wheat responses to heat stress during grain-filling. US Eastern wheat breeders annual meeting. Raleigh, NC.

2019: **Jagadish SVK**. July 2-5, 2019. Night-time temperature and flower-opening time dynamics affect crop adaptation in a changing climate. Society of Experimental Botany Conference, Seville, Spain.

2019: **Jagadish SVK**. Apr. 15-17, 2019. Molecular mechanisms that differentiate high night-time temperature responses in rice and wheat. Sensing and signaling in plant stress response, New Delhi, India

2018: **Jagadish SVK.** Dec. 2-5, 2018. Advances, challenges and opportunities in enhancing heat tolerance in major field crops. 4th International Plant Physiology Congress, Lucknow, India.

2018: **Jagadish SVK**. Nov. 4-7, 2018. Joint C2 and C7 Special Symposium, Organizer and Moderator– Heat Stress Symposium. ASA-CSSA-SSSA, Baltimore, MD.

2018: **Jagadish SVK**. Bahuguna R, Doherthy C, Obata T. Nov. 4.7, 2018. High night-time temperature induced respiratory losses and molecular responses in wheat. ASA-CSSA-SSSA, Baltimore, MD

2018: **Jagadish SVK**. Jan. 13-17, 2018. High day and night temperature responses in cereals. Plant and Animal Genome Conference XXVI, San Diego, CA, USA.

2018: **Jagadish SVK**. Jan. 13-17, 2018. Sorghum for the Great Plains - integrated strategies to enhance yield potential and abiotic stress resilience. Plant and Animal Genome Conference XXVI, San Diego, CA, USA.

2018: **Jagadish SVK.** Bheemanahalli R, Perumal R, Asebedo A, Prasad PVV. Apr. 9-12, 2018. Integrated strategies to enhance abiotic stress resilience in US sorghum. Sorghum in the 21st Century, Cape Town, South Africa.

2017: **Jagadish SVK**. Sept. 8, 2017. K-State Crop Physiology. Legislative Assistants/CARET Mini-Ag Tour. Manhattan, Kansas.

2016: **Jagadish SVK**, Kadam NN, Bheemanahalli R, Prasad PVV. Jan. 9-13, 2016. Exploring root morphological and anatomical plasticity among cereals to enhance adaptation to water limited conditions. Plant and Animal Genome Conference XXIV, San Diego, CA, USA.

2015: **Jagadish SVK**, Ishimaru T, Ye C. Nov. 15-18, 2015. Rice races against rising temperatures - achievements, opportunities and challenges. ASA-CSSA-SSSA, Minneapolis, USA.

2013: **Jagadish SVK**. Apr. 16-18, 2013. Climate change adaptation strategies at the International Rice Research Institute. International symposium on resilience to climate change in southeast Asia, Johor Bahru, Malaysia.

2013: **Jagadish SVK.** Nov. 18-20, 2013. Recent genetic gains and research achievements in rice at maintaining cereal productive under climate change through international collaboration organized by USAID and Bill and Melinda Gates Foundation, New Delhi, India.

2012: **Jagadish SVK**. Jan. 9-12, 2012. IRRI's role and progress on heat and drought stress research" delivered during 100 years of rice science celebrations. TamilNadu Agriculture University, Coimbatore, India.

2011: **Jagadish SVK**. Oct. 16-19, 2011. Keynote presentation on Climate change and food production in Asia at the ASA-CSSA-SSSA annual meeting, San Antonio, TX.

Conference or invited talk Abstracts

Oral and poster abstracts (#Graduate Student, $Post-doc, @Intern, *Major advisor or Co-advisors)

1. Enninful R#, Sunoj J$, Impa SM, Prasad PVV, **Jagadish SVK**. **2015**. Physiological characterization of sorghum NAM founder lines under water-deficit stress. Oral presentation SICNA, Sept 1-3, Manhattan, KS, USA.
2. Sunoj VSJ$, Shroyer KJ#, **Jagadish KSV**, Prasad PVV. **2015**. Diurnal temperature amplitude alters physiological and growth response of maize (*Zea mays* L.) during the vegetative stage. Oral presentation ASA-CSSA-SSSA, Nov 15-18, Minneapolis, USA.
3. **Jagadish KSV**, Ishimaru T, Ye C. **2015**. Rice races against rising temperatures - achievements, opportunities and challenges. Oral presentation ASA-CSSA-SSSA, Nov 15-18, Minneapolis, USA.
4. Enninful R#, John Sunoj VS$, Impa SM, Prasad PVV, **Jagadish SVK**. **2016**. Characterizing parents of sorghum mapping populations exposed to water-deficit stress. Oral presentation SICNA, Sept 19-21, Manhattan, KS, USA.
5. Impa SM, Sunoj VS$, Sun A@, Prasad PVV, **Jagadish SVK**. **2016**. High night temperature induced alterations in post flowering carbon balance and its impact on yield in winter wheat. Oral presentation ASA-CSSA-SSSA conference, Nov 6-8, Phoenix, AZ, USA
6. John Sunoj VS$, Somayanda IM, Chiluwal A#, Vara Prasad PV, Perumal R and **Jagadish SVK. 2016**. Impact of heat stress on pollen germination and post flowering response in diverse sorghum genotypes under field condition. Oral presentation ASA-CSSA-SSSA conference, Nov 6-8, Phoenix, AZ, USA
7. Bheemanahalli RR$, Jena K, **Jagadish SVK**. **2016**. Exploring rice and sorghum roots- can root anatomical modification increase drought tolerance in rice?, Oral presentation ASA-CSSA-SSSA conference, Nov 6-8, Phoenix, AZ, USA
8. **Jagadish SVK**, Kadam N#, Bheemanahalli RR$, Prasad PVV. **2016**. Exploring root morphological and anatomical plasticity among cereals to enhance adaptation to water limited conditions. Oral presentation Plant and Animal Genome Conference (PAG XXIV), Jan 9-13, San Diego, CA, USA
9. Chiluwal A#, Perumal R, Bheemanahalli R$. Sunoj VS$, Asebedo AR, **Jagadish SVK**. **2016**. Exploring germination and early vegetative stage cold tolerance in sorghum. Oral presentation SICNA, Sept 19-21 Manhattan, KS, USA
10. Chiluwal A#, Kanaganahalli V@, Sunoj VS$, Sun A@, Impa SM, Prasad PVV, **Jagadish SVK**. **2016**. Is sorghum truly tolerant or an efficient escaper of heat stress during flowering? Oral Presentation, ASA-SSSA-CSSA Annual meeting, Nov 6-9, Phoenix, AZ, USA.
11. Enninful R#, John Sunoj VS$, Somayanda I, Vara Prasad PV, **Jagadish SVK. 2016**. Characterizing parents of sorghum mapping populations exposed to water-deficit stress during vegetative stage. Oral presentation ASA-SSSA-CSSA Annual meeting, Nov 6-9, Phoenix, AZ, USA
12. Enninful R#, Somayanda I, Sunoj VS$, Vara Prasad PV, **Jagadish SVK. 2016**. Morphological and anatomical adaptability of sorghum roots exposed to water-deficit stress during vegetative stage Poster presentation ASA-SSSA-CSSA Annual meeting, Nov 6-9, Phoenix, AZ, USA [**Second place winner**]
13. Bergkamp B#, Impa SM, Sunoj VS$, Fritz A, **Jagadish SVK**. **2016**. Can current prominent Kansas winter wheat cultivars tolerate post-flowering heat stress? Oral presentation Research and the State, Nov. 2, Manhattan, KS, USA.
14. Prasad PVV, Djanaguiraman M, **Jagadish SVK**. **2017**. Heat Stress: Perception, Response and Resilience in Crop Plants. Invited oral presentation Interdrought-V, Feb 21-25, Hyderabad, India
15. Raju BR$, Quinones OC#, Anandhan T#, Vara Prasad PV, Hechanova S, Jena KK, **Jagadish SVK**. **2017**. Exploring root-leaf continuum between wild rices and sorghum to enhance drought stress resilience in rice. Poster presentation Interdrought-V, Feb 21-25, Hyderabad, India
16. Muthurajan R, Rajendran S, Ramachandran M, Ishimaru T, Jagadish SVK. **2017.** Towards developing rice genotypes adapted to warming climate. Oral presentation Interdrought-V, Feb 21-25, Hyderabad, India
17. Shew AM#, Nalley NL, Sudhir Y, **Jagadish SVK**. **2017**. Geospatial Analysis of Water Depth and Salinity Constraints on Agriculture: The Case of Polder Production Systems in Coastal Bangladesh Association of American Geographers, Annual Meeting, Apr 5-9, Boston, Massachusetts, USA
18. Chiluwal A#, Bheemanahalli R$, Asebedo AR, Shetty NJ, Perumal R, Prasad PVV, **Jagadish SVK***. **2018**. Cold stress resilience at early seedling in sorghum determined by integrating aerial imagery and destructive

phenotyping. Sorghum Improvement Conference of North America, Jan. 29-31, St Louis, MO [**Third Place Oral Competition**].

19. Chiluwal A[#], Bheemanahalli R[$], Perumal R, **Jagadish SVK***. **2018**. Unraveling physiological mechanisms inducing heat stress resilience in sorghum during flowering. Proceedings of ASA-CSSA-SSSA annual meeting, Nov. 4-7, Baltimore, MD.
20. Chiluwal A[#], Perumal R, Bheemanahalli R[$], Sebela D[$], Pokharel M[#], Hu Z, Morris GP. **Jagadish SVK***. **2018**. Genetic association of source, sink and transport in sorghum. Proceedings of ASA-CSSA-SSSA annual meeting, Nov. 4-7, Baltimore, MD.
21. Fu J[$], Bowden RL, **Jagadish SVK***. **2018**. Genome-wide association analysis of stay-green traits under heat stress in wheat. Proceedings of ASA-CSSA-SSSA annual meeting, Nov. 4-7, Baltimore, MD.
22. Pokharel M[#], Chiluwal A[#], Stamm M, **Jagadish SVK***. **2018**. Physiological characterization and seed fatty-acid changes in winter canola exposed to high night temperature during flowering and pod-filling stages. Proceedings of ASA-CSSA-SSSA annual meeting, Nov. 4-7, Baltimore, MD.
23. Pokharel M[#], Stamm M, **Jagadish SVK***. **2018**. Quantifying the combined impact of high day and night temperature stress on reproductive processes during flowering in canola. Proceedings of ASA-CSSA-SSSA annual meeting, Nov. 4-7, Baltimore, MD.
24. Bheemanahalli R[$], Bashir E, Pokharel M[#], Chiluwal A[#], Moghimi N, Ostmeyer T, Perumal R, **Jagadish SVK***. **2018**. Physiology and genetics of stomata and biomass associated traits in sorghum. Proceedings of ASA-CSSA-SSSA annual meeting, Nov. 4-7, Baltimore, MD.
25. Bheemanahalli R[$], Quinones C, **Jagadish SVK***. **2018**. Genome wide association analysis of grain yield and biomass in rice under high night temperature. Proceedings of ASA-CSSA-SSSA annual meeting, Nov. 4-7, Baltimore, MD.
26. Ostmeyer T[#], Perumal R*, Little C, **Jagadish SVK*. 2018**. Developing high yielding sorghum hybrids with early season chilling and root-rot resilience. Proceedings of ASA-CSSA-SSSA annual meeting, Nov. 4-7, Baltimore, MD.
27. Biswas M[#], Khan MH, Ahsan N, Bhandari H, Mondal M, Yadav S*, **Jagadish SVK**. **2018**. Food availability and consumption pattern of polder community in the coastal zone of Bangladesh. Sustainable Agricultural Intensification and Nutrition Conference, Jan. 10-11, Royal University of Agriculture, Cambodia.
28. Ostmeyer T[#], **Jagadish SVK***, Little C, Perumal R*. **2018**. Heterosis and combining ability of traits inducing early season chilling tolerance. Proceedings of ASA-CSSA-SSSA annual meeting, Nov. 4-7, Baltimore, MD.
29. Shew AM[#], Mondal M, Yadav S, **Jagadish SVK***, Buisson MC, Bhandari H, Nalley L*. **2018**. Potential economic and food security impacts of sustainable intensification of polder agriculture in Coastal Bangladesh. Southern Agricultural Economics Association meeting, Feb. 3-6, Jacksonville, FL.
30. Mondal M, Yadav S*, **Jagadish SVK**, Islam S. **2018**. Learning Hubs Concept: A 4-dimensional model for knowledge sharing on improved production systems in the polders of the coastal zone of Bangladesh. Sustainable Agricultural Intensification and Nutrition Conference, Jan. 10 -11, Royal University of Agriculture, Cambodia.
31. Bheemanahalli R[$], Impa SM[$], Hein N[#], **Jagadish SVK***. **2019**. Comparative assessment of chamber and field grown wheat to high night temperature. Proceedings of ASA-CSSA-SSSA annual meeting, Nov. 10-13, San Antonio, TX.
32. Bheemanahalli R[$], Ostmeyer T[#], Perumal R, **Jagadish SVK***. **2019**. Chilling tolerance during early seedling stage in grain sorghum. Proceedings of ASA-CSSA-SSSA annual meeting, Nov. 10-13, San Antonio, TX.
33. Bustamante C[#], Impa SM[$], **Jagadish SVK***. **2019**. Physiological characterization of wild emmer wheat (*Triticum dicoccoides*) for heat stress resilience. Proceedings of ASA-CSSA-SSSA annual meeting, Nov. 10-13, San Antonio, TX.
34. Bustamante C[#], Impa SM[$], Poland J, **Jagadish SVK***. **2019**. Exploring *Triticum aestivum-Aegilops speltoides* Robertsonian translocation lines for heat tolerance. Proceedings of ASA-CSSA-SSSA annual meeting, Nov. 10-13, San Antonio, TX.
35. Hein N[#], Bheemanahalli R[$], **Jagadish SVK***. **2019**. Integrating mobile infrastructure and cyber-physical technology to impose high night-time temperature stress on winter wheat. Proceedings of ASA-CSSA-SSSA annual meeting, Nov. 10-13, San Antonio, TX.

36. Hein N[#], Wagner D[@], Bheemanahalli R[$], **Jagadish SVK*. 2019**. Utilizing cyber-physical system technology to phenotype for high night-time temperature impact on field grown winter wheat. Proceedings of ASA-CSSA-SSSA annual meeting, Nov. 10-13, San Antonio, TX.
37. Ostmeyer T[#], Perumal R*, Bheemanahalli R[$], **Jagadish SVK*. 2019**. Developing high yielding sorghum hybrids with early season chilling tolerance. Proceedings of ASA-CSSA-SSSA annual meeting, Nov. 10-13, San Antonio, TX.
38. Ostmeyer T[#], Perumal R*, Little RC, **Jagadish SVK*. 2019**. Heterosis and combining ability of traits inducing early season chilling tolerance in grain sorghum. Proceedings of ASA-CSSA-SSSA annual meeting, Nov. 10-13, San Antonio, TX.
39. Pokharel M[#], Stamm M, **Jagadish SVK*. 2019**. Heat stress affects pod set, pod filling and seed quality in chamber and field grown canola. Proceedings of ASA-CSSA-SSSA annual meeting, Nov. 10-13, San Antonio, TX.
40. Pokharel M[#], Stamm M, **Jagadish SVK*. 2019**. High night temperature during flowering and pod filling affects flowering pattern, yield and seed quality in Canola. Proceedings of ASA-CSSA-SSSA annual meeting, Nov. 10-13, San Antonio, TX.
41. Vennapusa A[$], Impa SM[$], **Jagadish SVK*. 2019**. A universal protocol for high-quality RNA extraction in wheat seeds and roots. Proceedings of ASA-CSSA-SSSA annual meeting, Nov. 10-13, San Antonio, TX.
42. Vennapusa A[$], Impa SM[$], Bheemanahalli R[$], **Jagadish SVK*. 2019**. High night temperatures affect grain-quality dynamics and starch metabolism in winter wheat genotypes. Proceedings of ASA-CSSA-SSSA annual meeting, Nov. 10-13, San Antonio, TX.
43. Wang C[@], Caragea B*, Bheemanahalli R[$], Hein N[#], **Jagadish SVK*. 2019**. Rice chalkiness detection with deep learning. Proceedings of ASA-CSSA-SSSA annual meeting, Nov. 10-13, San Antonio, TX.
44. Wang C[@], Li X, Caragea B*, Bheemanahalli R[$], **Jagadish SVK*. 2019**. Rice root cross-section image analysis with deep learning. Proceedings of ASA-CSSA-SSSA annual meeting, Nov. 10-13, San Antonio, TX.
45. Hein N[#], Wagner D[@], Bheemanahalli R[$], **Jagadish SVK*. 2019**. Utilizing cyber-physical system technology to phenotype for high night-time temperature impact on field grown winter wheat. Phenome, Feb. 6-9, Tucson, AZ.
46. Vennapusa AR[$], Impa SM[$], Sebela D[$], Bheemanahalli R[$], **Jagadish SVK*. 2019**. Source-sink mechanisms differentiating winter wheat exposed to a range of night-time temperatures during grain filling. Plant and Animal Genome XXVII Conference, Jan. 12-16, San Diego, CA.
47. Hein N[#], Ostmeyer T[#], Cook L, Impa SM[$], PVV Prasad, **Jagadish SVK*. 2021**. Comparative assessment of grain quality and micronutrients in field-grown wheat and maize exposed to high night temperatures. Proceedings of ASA-CSSA-SSSA annual meeting, Nov. 7-10, Salt Lake City, UT.
48. Hein N[#], Ostmeyer T[#], Cook L, Impa SM[$], **Jagadish SVK*. 2021**. Comparative assessment of yield and yield parameters in winter wheat and maize exposed to elevated high night-time temperatures in the field. Proceedings of ASA-CSSA-SSSA annual meeting, Nov. 7-10, Salt Lake City, UT.
49. Ostmeyer T[#], Hein N[#], Cook L, Asebedo R, Dhillon R, Prasad PVV, **Jagadish SVK*. 2021**. Comparing C3 (wheat) and C4 (sorghum) nitrogen responses utilizing ground- and aerial-based sensor technology. Proceedings of ASA-CSSA-SSSA annual meeting, Nov. 7-10, Salt Lake City, UT.
50. Ostmeyer T[#], Hein N[#], Cook L, Bean S, Asebedo R, Dhillon R, Prasad PVV, **Jagadish SVK*. 2021**. Associating ground- and aerial-based sensor technology to grain protein content, structure and digestion and amino acid composition. Proceedings of ASA-CSSA-SSSA annual meeting, Nov. 7-10, Salt Lake City, UT.
51. Cruz A[#], Ostmeyer TJ[#], Norris AB, Sarturi J, Emendack Y, Sanchez J, Hayes C, **Jagadish SVK*. 2022.** Sorghum and pearl millet as sustainable alternative forage options for water limited environments. Proceedings of ASA-CSSA-SSSA annual meeting, Nov. 6-9, Baltimore, MD.
52. Cruz A[#], Ostmeyer TJ[#], Norris AB, Sarturi J, Emendack Y, Hayes C, **Jagadish SVK*. 2022.** Sorghum and millet as alternative forage options for water limited environments. Proceedings of ASA-CSSA-SSSA annual meeting, Nov. 6-9, Baltimore, MD.
53. Ostmeyer TJ[#], Cruz A[#], Ritchie G, Somayanda I, Bean S, **Jagadish SVK*. 2022.** Intra-Panicle Grain-Filling Dynamics and Sustainability of Sorghum with in-Season Split Nitrogen Applications. Proceedings of ASA-CSSA-SSSA annual meeting, Nov. 6-9, Baltimore, MD.

54. Ostmeyer TJ[#], Cruz A[#], Ritchie G, Somayanda I, Bean S, **Jagadish SVK*. 2022**. Grain Sorghum Yield and Quality Under in-Season Split N Applications. Proceedings of ASA-CSSA-SSSA annual meeting, Nov. 6-9, Baltimore, MD.
55. Cruz A[#], Bangari MPS[#], Aviles DF[#], Ostmeyer T[#], Hayes C, Norris A, **Jagadish SVK*. 2023.** Comparison of Nutritional Value of Summer-Annual Forages Grown Under Field and Greenhouse Conditions. Proceedings of ASA-CSSA-SSSA annual meeting, Oct. 29-Nov. 1, St. Louis, MO.
56. Cruz A[#], Bangari MPS[#], Aviles DF[#], Xu W, Hayes C, Norris AB, **Jagadish SVK*. 2023**. Comparative Assessment of Summer-Annuals As Alternative Forage Options Under Water and Nutrient Limited Environments. Proceedings of ASA-CSSA-SSSA annual meeting, Oct. 29-Nov. 1, St. Louis, MO.
57. Bangari MPS[#], Saini DK[$], Oduntan YA, Cruz A, Mehla MK, Ichinose Y, Muccioli G, Lima JE, Robertson DJ, **Jagadish SVK*. 2023.** "Darling" - a Novel Phenotyping Tool to Unravel Sorghum Stem Mechanical Resilience to Lodging Under Different Water Regimes. Proceedings of ASA-CSSA-SSSA annual meeting, Oct. 29-Nov. 1, St. Louis, MO.
58. Bangari MPS[#], Pramanik S[#], Saini DK[$], Caragea D, **Jagadish SVK*. 2023**. Developing and Testing an Inclusive Deep Learning Tool for Assessing Sink Size in Grain Sorghum. Proceedings of ASA-CSSA-SSSA annual meeting, Oct. 29-Nov. 1, St. Louis, MO.
59. Saini DK[$], Bahuguna RN, Pal M, **Jagadish SVK*. 2023.** Unraveling the Genomic Regions Associated with CO2 Responsiveness, Photosynthesis and Transpiration in Rice Under Varying Plant Densities. Proceedings of ASA-CSSA-SSSA annual meeting, Oct. 29-Nov. 1, St. Louis, MO.
60. Saini DK[$], Bangari MPS[#], Mehla MK[$], **Jagadish SVK*. 2023**. Breaking Yield Barriers and Enhancing Drought Stress Resilience through Trait Specific Phenotyping Complemented with Crop Modelling. Proceedings of ASA-CSSA-SSSA annual meeting, Oct. 29-Nov. 1, St. Louis, MO.
61. Ichinose Y[#], Lima JE[$], Saini DK[$], Bangari MPS[#], Cruz A[#], Mehla MK[$], Somayanda I, **Jagadish SVK*. 2023.** Addressing Pre-Harvest Sprouting By Integrating Grain Physiology and Genetics. Proceedings of ASA-CSSA-SSSA annual meeting, Oct. 29-Nov. 1, St. Louis, MO.
62. Ichinose Y[#], Mehla MK[$], Cruz A[#], Lima JE[$], Saini DK[$], Bangari MPS[#], Somayanda I, Ritchie G, **Jagadish SVK*. 2023.** Assessing Agronomic and Environmental Sustainability of Sorghum-Cotton Rotation in West Texas High Plain. Proceedings of ASA-CSSA-SSSA annual meeting, Oct. 29-Nov. 1, St. Louis, MO.
63. Lima JE[$], Bolouri F, Pramanik S, Perez ZRR, Ichinose Y[#], Bangari MPS[#], Saini DK[$], Cruz A[#], Mehla MK[$], Shekoofa A, Nguyen HT, Schapaugh WT, Sari-Sarraf H, Caragea D, Ritchie G, **Jagadish SVK*. 2023.** Advancing Phenotyping for Flower Abortion in Soybeans through Image Analysis and Machine Learning. Proceedings of ASA-CSSA-SSSA annual meeting, Oct. 29-Nov. 1, St. Louis, MO.
64. Lima JE[$], Ichinose Y[#], Perez ZRR, Saini DK[$], Bangari MPS[#], Cruz A[#], Mehla MK[$], Bolouri F, Shekoofa A, Nguyen HT, Schapaugh WT, Ritchie G, **Jagadish SVK*. 2023.** Exploring Soybean Flower Abortion in Diverse Genotypes: Insights from Two USA Locations. Proceedings of ASA-CSSA-SSSA annual meeting, Oct. 29-Nov. 1, St. Louis, MO.
65. Mehla MK[$], Fischel L[#], Saini DK[$], **Jagadish SVK*. 2023.** Various Irrigation Systems and Sensor-Based Irrigation Management for Enhancing Agricultural Water Productivity in West Texas. Proceedings of ASA-CSSA-SSSA annual meeting, Oct. 29-Nov. 1, St. Louis, MO.
66. Cruz A[#], Aviles DF, Taylor E, Perez S, Norris AB, Hayes C, Somayanda I, **Jagadish SVK*. 2024.** A Comparison of Antinutritional Factors in Summer Annual Forages Under Differing Irrigation and Nitrogen Treatments. Oral presentation. Proceedings of ASA-CSSA-SSSA International Annual Meeting, Nov. 10 -13, San Antonio, TX.
67. Cruz A[#], Aviles DF, Norris AB, Somayanda, I, **Jagadish SVK*. 2024.** Forage allowance of prussic acid free sorghum and pearl millet in a continuous grazing system under irrigated and dryland conditions. Poster presentation. Proceedings of ASA-CSSA-SSSA annual meeting, Nov. 10 -13, San Antonio, TX.
68. Saini DK[$], Hein N, Somayanda, Bheemanahalli R, Ostmeyer T, **Jagadish SVK*. 2024.** Genetic regulation of tolerance to high night temperature in field-grown winter wheat and its implications for wheat breeding. Oral presentation. ASA-CSSA-SSSA International Annual Meeting, Nov. 10-13, San Antonio, TX.

69. Saini DK[$], Bahuguna RN, Pal M, Chaturvedi AK, **Jagadish SVK*. 2024.** Exploring the interplay of planting density, CO_2 levels, and genomic variants in rice yield optimization. Oral presentation. ASA-CSSA-SSSA International Annual Meeting, Nov. 10-13, San Antonio, TX.
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