

FIVE YEAR PUBLICATION LIST

JAMES C. SCHNABLE

H-Index: 30

Lab members in **bold**.

Postdoc/visiting scholar† in Schnable Lab.

Graduate student‡ in Schnable Lab.

Undergraduate authors in Schnable Lab.

Authors contributed equally*

Journal Publications 2021-2017

2021 Journal Publications (N=20)

84. **Tross MC**, Gaillard M, **Zweiner M**, **Miao C**, Li B, Benes B, **Schnable JC**[§] (2021) 3D reconstruction identifies loci linked to variation in angle of individual sorghum leaves. *PEERJ* doi: [10.7717/peerj.12628](https://doi.org/10.7717/peerj.12628) *BIORxIV* doi: [10.1101/2021.06.15.448566](https://doi.org/10.1101/2021.06.15.448566)
JOURNAL IMPACT FACTOR (2021 REPORT):
ALTMETRIC SCORE (PERCENTILE AT JOURNAL):
SCHNABLE LAB PERCENT CONTRIBUTION: 75%
CONTRIBUTION STATEMENT: The Benes group (Gaillard M, Li B, & Benes B) provided estimated leaf angle values using images collected by the Schnable lab from a previous greenhouse experiment we conducted. All other work and analyses conducted by members of the Schnable Lab.
83. Woodhouse MR[§], Sen S, Schott D, Portwood JL, Freeling M, Walley JL, Andorf CM, **Schnable JC** (2021) qTeller: A tool for comparative multi-genomic gene expression analysis. *BIOINFORMATICS* doi: [10.1093/bioinformatics/btab604](https://doi.org/10.1093/bioinformatics/btab604)
JOURNAL IMPACT FACTOR (2021 REPORT):
ALTMETRIC SCORE (PERCENTILE AT JOURNAL):
SCHNABLE LAB PERCENT CONTRIBUTION: 40%
CONTRIBUTION STATEMENT: Conceived of and wrote the original source code for the qTeller application. Hosted and popularized a website using the application. Contributed a draft of an unpublished earlier manuscript describing the software to the first author. Provided edits and feedback on the new manuscript drafted by the first author.
82. Weissmann S, Huang P, Wiechert M, Furoyama K, Brutnell TP, Taniguchi M, **Schnable JC**,[§] Mockler TC[§] (2021) DCT4 - a new member of the dicarboxylate transporter family in C₄ grasses. *GENOME BIOLOGY AND EVOLUTION* doi: [10.1093/gbe/evaa251](https://doi.org/10.1093/gbe/evaa251) *BIORxIV* doi: [10.1101/762724](https://doi.org/10.1101/762724)
JOURNAL IMPACT FACTOR (2021 REPORT):
ALTMETRIC SCORE (PERCENTILE AT JOURNAL):
SCHNABLE LAB PERCENT CONTRIBUTION: 35%
CONTRIBUTION STATEMENT: Conducted comparative genomic and transcriptomic analyses. Originally identified DCT4 gene copies in sorghum and setaria (as a postdoc). Worked with the first author to draft the paper, design figures, and generate a response to reviewers (as a PI).
81. Diao X[§], Zhang H, Tang s, **Schnable JC**, He Q, Gao Y, Luo M, Jia G, Feng B, Zhi H (2021) Genome-Wide DNA polymorphism analysis and molecular marker development of *Setaria italica* variety 'SSR41' and application in positional cloning of *Setaria* white leaf sheath gene SiWLS1. *FRONTIERS IN PLANT SCIENCE* (*In Press*)
JOURNAL IMPACT FACTOR (2021 REPORT):
ALTMETRIC SCORE (PERCENTILE AT JOURNAL):

SCHNABLE LAB PERCENT CONTRIBUTION: 5%

CONTRIBUTION STATEMENT: Conducted bioinformatic/genomic analyses using the SSR41 resequencing data. Edited portions of the manuscript for language/scientific clarity.

80. **Miao C, Guo A[‡]**, Thompson AM, Yang J, Ge Y, **Schnable JC[§]** (2021) Automation of leaf counting in maize and sorghum using deep learning. *THE PLANT PHENOME JOURNAL* doi: [10.1002/ppj2.20022](https://doi.org/10.1002/ppj2.20022) *BIORxIV* doi: [10.1101/2020.12.19.423626](https://doi.org/10.1101/2020.12.19.423626)
JOURNAL IMPACT FACTOR (2021 REPORT):
ALTMETRIC SCORE (PERCENTILE AT JOURNAL):
SCHNABLE LAB PERCENT CONTRIBUTION: %
CONTRIBUTION STATEMENT: Non-Schnable Lab authors contributed image data and/or assistance in ground truth annotation. All other work and analyses conducted by members of the Schnable Lab
79. **Sun G[§], Mural RV, Turkus JD, Schnable JC** (2021) Quantitative resistance loci to southern rust mapped in a temperate maize diversity panel. *PHYTOPATHOLOGY* doi: [10.1094/PHYTO-04-21-0160-R](https://doi.org/10.1094/PHYTO-04-21-0160-R) *BIORxIV* doi: [10.1101/2021.04.02.438220](https://doi.org/10.1101/2021.04.02.438220)
JOURNAL IMPACT FACTOR (2021 REPORT):
ALTMETRIC SCORE (PERCENTILE AT JOURNAL):
SCHNABLE LAB PERCENT CONTRIBUTION: 100%
CONTRIBUTION STATEMENT: All work and analyses conducted by members of the Schnable Lab.
78. **Mural RV, Grzybowski M, Miao C, Damke A[‡]**, Sapkota S, Boyles RE, Salas Fernandez MG, Schnable PS, **Sigmon B**, Kresovich S, **Schnable JC[§]** (2021) Meta-analysis identifies pleiotropic loci controlling phenotypic trade-offs in sorghum. *GENETICS* doi: [10.1093/genetics/iyabo87](https://doi.org/10.1093/genetics/iyabo87) *BIORxIV* doi: [10.1101/2020.10.27.355495](https://doi.org/10.1101/2020.10.27.355495)
JOURNAL IMPACT FACTOR (2021 REPORT):
ALTMETRIC SCORE (PERCENTILE AT JOURNAL):
SCHNABLE LAB PERCENT CONTRIBUTION: 90%
CONTRIBUTION STATEMENT: Non-Schnable lab authors contributed previously unpublished data collected at field sites in South Carolina and Iowa. All other work and analyses conducted by members of the Schnable Lab.
77. **Grzybowski M**, Wijewardane NK, Atefi A, Ge Y, **Schnable JC[§]** (2021) The potential of hyperspectral reflectance as a tool for quantitative genetics in crops. *PLANT COMMUNICATIONS* doi: [10.1016/j.xplc.2021.100209](https://doi.org/10.1016/j.xplc.2021.100209)
JOURNAL IMPACT FACTOR (2021 REPORT):
ALTMETRIC SCORE (PERCENTILE AT JOURNAL):
SCHNABLE LAB PERCENT CONTRIBUTION: 85%
CONTRIBUTION STATEMENT: Wijewardane NK, Atefi A & Ge Y provided expertise and assisted with the collection of the raw hyperspectral measurements. All other work and analyses conducted by members of the Schnable Lab.
76. Zhou Y, Kusmec A, Mirnezami SV, Srinivasan L, Jubery TZ, **Schnable JC**, Salas-Fernandez MG, Nettleton D, Ganapathysubramanian B, Schnable PS[§] (2021) Identification and utilization of genetic determinants of trait measurement errors in image-based, high-throughput phenotyping. *THE PLANT CELL* doi: [10.1093/plcell/koab134](https://doi.org/10.1093/plcell/koab134)
JOURNAL IMPACT FACTOR (2021 REPORT):
ALTMETRIC SCORE (PERCENTILE AT JOURNAL):
SCHNABLE LAB PERCENT CONTRIBUTION: 10%
CONTRIBUTION STATEMENT: Conceived of an approach to quantifying genetically controlled measurement error. Drafted portions of the paper, edited and revised the remainder.
75. Atefi A, Ge Y[§], Pitla S, **Schnable JC** (2021) Robotic Technologies for High-Throughput Plant Phenotyping: Reviews and Perspectives. *FRONTIERS IN PLANT SCIENCE* doi: [10.3389/fpls.2021.611940](https://doi.org/10.3389/fpls.2021.611940)
JOURNAL IMPACT FACTOR (2021 REPORT):
ALTMETRIC SCORE (PERCENTILE AT JOURNAL):
SCHNABLE LAB PERCENT CONTRIBUTION: 20%
CONTRIBUTION STATEMENT: Worked with first author to draft and revise this manuscript.

74. Alzadjali A, Veeranampalayam-Sivakumar A, Alali MH, Deogun JS, Scott S, **Schnable JC**, Shi Y^S (2021) Maize tassel detection from UAV imagery using deep learning. *FRONTIERS IN ROBOTICS AND AI* [10.3389/frobt.2021.600410](https://doi.org/10.3389/frobt.2021.600410)
JOURNAL IMPACT FACTOR (2021 REPORT):
ALTMETRIC SCORE (PERCENTILE AT JOURNAL):
SCHNABLE LAB PERCENT CONTRIBUTION: 10%
CONTRIBUTION STATEMENT: Conducted field experiments, collected ground truth data. Provided input to the final paper.
73. Meier MA, Lopenz-Guerrero MG, Guo M, Schmer MR, Herr JR, **Schnable JC**, Alfano JR, Yang J^S (2021) Rhizosphere microbiomes in a historical maize/soybean rotation system respond to host species and nitrogen fertilization at genus and sub-genus levels. *APPLIED AND ENVIRONMENTAL MICROBIOLOGY* doi: [10.1128/AEM.03132-20](https://doi.org/10.1128/AEM.03132-20) *BIORxIV* doi: [10.1101/2020.08.10.244384](https://doi.org/10.1101/2020.08.10.244384)
JOURNAL IMPACT FACTOR (2021 REPORT):
ALTMETRIC SCORE (PERCENTILE AT JOURNAL):
SCHNABLE LAB PERCENT CONTRIBUTION: 10%
CONTRIBUTION STATEMENT: Conceived of the key analyses that enabled us to achieve sub-genus level functional resolution in this dataset. Worked with the first author to improve statistical analyses, data visualization, and paper structure. Drafted portions of the paper, edited and revised the remainder.
72. Serba DD, **Meng X**, **Schnable JC**, Bashir E, Michaud JP, Vara Prasad PV, Perumal R (2021) Comparative transcriptome analysis reveals genetic mechanisms of sugarcane aphid resistance in grain sorghum. *INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES* doi: [10.3390/ijms22137129](https://doi.org/10.3390/ijms22137129)
JOURNAL IMPACT FACTOR (2021 REPORT):
ALTMETRIC SCORE (PERCENTILE AT JOURNAL):
SCHNABLE LAB PERCENT CONTRIBUTION: 35%
CONTRIBUTION STATEMENT: Extracted RNA from tissue samples collected by the lead author, constructed and sequenced RNA-seq libraries, conducted bioinformatic and statistical analyses on the resulting gene expression data. Drafted portions of the paper, edited and revised the remainder.
71. Hurst JP, **Schnable JC**, Holding DR^S (2021) Tandem duplicate expression patterns are conserved between maize haplotypes of the α -zeingene family. *PLANT DIRECT* doi: [10.1002/pld3.346](https://doi.org/10.1002/pld3.346)
JOURNAL IMPACT FACTOR (2021 REPORT):
ALTMETRIC SCORE (PERCENTILE AT JOURNAL):
SCHNABLE LAB PERCENT CONTRIBUTION: 10%
CONTRIBUTION STATEMENT: Provided advice and guidance to the lead author regarding transcriptomic and comparative genomic analyses. Assisted in editing and revising the paper.
70. Busta L, Schmitz E, Kosma D, **Schnable JC**, Cahoon EB^S (2021) A co-opted steroid synthesis gene, maintained in sorghum but not maize, is associated with a divergence in leaf wax chemistry. *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA* doi: [10.1073/pnas.2022982118](https://doi.org/10.1073/pnas.2022982118)
JOURNAL IMPACT FACTOR (2021 REPORT):
ALTMETRIC SCORE (PERCENTILE AT JOURNAL):
SCHNABLE LAB PERCENT CONTRIBUTION: 15%
CONTRIBUTION STATEMENT: Proposed and conducted comparative genomic analysis and evolutionary reconstructions. Assisted in writing portions of the paper. Addressed reviewer concerns during revision.
69. **Meng X**, **Liang Z**, **Dai X**, **Zhang Y**, Mahboub S, Ngu DW[†], Roston RL, **Schnable JC**^S (2021) Predicting transcriptional responses to cold stress across plant species. *PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA*. doi: [10.1073/pnas.2026330118](https://doi.org/10.1073/pnas.2026330118) *BIORxIV* doi: [10.1101/2020.08.25.266635](https://doi.org/10.1101/2020.08.25.266635)
JOURNAL IMPACT FACTOR (2021 REPORT):
ALTMETRIC SCORE (PERCENTILE AT JOURNAL):
SCHNABLE LAB PERCENT CONTRIBUTION: 80%

CONTRIBUTION STATEMENT: All work excluding the profiling of photosynthetic impairment subsequent to cold stress (conducted by the Roston lab) was conducted by members of my research group.

68. Sankaran S^S, Marzougui A, **Hurst JP**, Zhang C, **Schnable JC**, Shi Y (2021) Can high resolution satellite imagery be used in high-throughput field phenotyping? TRANSACTIONS OF THE ASABE doi: [10.13031/trans.14197](https://doi.org/10.13031/trans.14197)

JOURNAL IMPACT FACTOR (2021 REPORT):

ALTMETRIC SCORE (PERCENTILE AT JOURNAL):

SCHNABLE LAB PERCENT CONTRIBUTION: 33%

CONTRIBUTION STATEMENT: Grew field trials, collected measurements, proposed analyses, conducted a subset of the analyses, drafted portions of the manuscript and edited the remainder.

67. Zhu Y, Chen Y, Ali Md. A, Dong L, Wang X, Archontoulis SV, **Schnable JC**, Castellano MJ^S (2021) Continuous in situ soil nitrate sensors: a comparison with conventional measurements and the value of high temporal resolution measurements. SOIL SCIENCE SOCIETY OF AMERICA JOURNAL doi: [10.1002/saj2.20226](https://doi.org/10.1002/saj2.20226)

JOURNAL IMPACT FACTOR (2021 REPORT):

ALTMETRIC SCORE (PERCENTILE AT JOURNAL):

SCHNABLE LAB PERCENT CONTRIBUTION: 10%

CONTRIBUTION STATEMENT: Conducted field trials of the sensor at our eastern Nebraska field site. Contributed to writing and editing of the manuscript.

66. **Lai X**, Bendix C, **Zhang Y**, **Schnable JC**, Harmon FG^S (2021) 72-hour diurnal RNA-seq analysis of fully expanded third leaves from maize, sorghum, and foxtail millet at 3-hour resolution. BMC RESEARCH NOTES doi: [10.1186/s13104-020-05431-5](https://doi.org/10.1186/s13104-020-05431-5)

JOURNAL IMPACT FACTOR (2021 REPORT):

ALTMETRIC SCORE (PERCENTILE AT JOURNAL):

SCHNABLE LAB PERCENT CONTRIBUTION: 70%

CONTRIBUTION STATEMENT: Members of the schnable lab extracted RNA, conducted RNA-sequencing libraries, generated the sequencing data and ran the bioinformatic analyses. Bendix grew the plants and collected tissue samples. Harmon drafted the paper.

65. Rogers AR, Dunne JC, Romay C ... **Schnable JC** (24th of 39 authors) ... Kaeppler S, De Leon N, Holland JB^S (2021) The importance of dominance and genotype-by-environment interactions on grain yield variation in a large-scale public cooperative maize experiment. G3:GENES | GENOMES | GENETICS doi: [10.1093/g3journal/jkaa050](https://doi.org/10.1093/g3journal/jkaa050)

Selected as an Editor's Choice by MaizeGDB Editorial Board February 2021

JOURNAL IMPACT FACTOR (2021 REPORT):

ALTMETRIC SCORE (PERCENTILE AT JOURNAL):

SCHNABLE LAB PERCENT CONTRIBUTION: %

CONTRIBUTION STATEMENT: Contributed data from field trials conducted across three environments in eastern and central nebraska. Provided edits and feedback on the manuscript.

64. Jarquin D, de Leon N, Romay C ... **Schnable JC** (24th of 33 authors) ... Wissner RJ, Xu W, Lorenz A (2021) Utility of climatic information via combining ability models to improve genomic prediction for yield within the Genomes to Fields maize project. FRONTIERS IN GENETICS doi: [10.3389/fgene.2020.592769](https://doi.org/10.3389/fgene.2020.592769)

JOURNAL IMPACT FACTOR (2021 REPORT):

ALTMETRIC SCORE (PERCENTILE AT JOURNAL):

SCHNABLE LAB PERCENT CONTRIBUTION: 6%

CONTRIBUTION STATEMENT: Contributed data from field trials conducted across three environments in eastern and central nebraska. Provided edits and feedback on the manuscript.

63. DiMario RJ, Kophs AN, Pathare VS, **Schnable JC**, Cousins AB^S (2021) Phosphoenolpyruvate carboxylase kinetic variation provides opportunity to enhance C₄ photosynthetic efficiency. THE PLANT JOURNAL doi: [10.1111/tpj.15141](https://doi.org/10.1111/tpj.15141)

JOURNAL IMPACT FACTOR (2021 REPORT):

ALTMETRIC SCORE (PERCENTILE AT JOURNAL):

SCHNABLE LAB PERCENT CONTRIBUTION: 20%

CONTRIBUTION STATEMENT: Proposed and conducted bioinformatic and comparative genomic analyses. Generated sequences used for in vitro functional characterization. Drafted a portion of the manuscript, provided edits and feedback on the remainder.

62. Thudi M, Palakurthi R, **Schnable JC**, Chitikineni A, Dreisigacker S, Mace E, Srivastava RK, Satyavathi CT, Odeny D, Tiwari VK, Lam HM, Hong YB, Singh VK, Li G, Xu Y, Chen X, Nguyen H, Sivasankar S, Close TJ, Stein N, Jackson SA, Shubo W, Varshney RK^S (2021) Genomic resources in plant breeding for sustainable agriculture. JOURNAL OF PLANT PHYSIOLOGY doi: [10.1016/j.jplph.2020.153351](https://doi.org/10.1016/j.jplph.2020.153351)

JOURNAL IMPACT FACTOR (2021 REPORT):

ALTMETRIC SCORE (PERCENTILE AT JOURNAL):

SCHNABLE LAB PERCENT CONTRIBUTION: 5%

CONTRIBUTION STATEMENT: Drafted one section of the manuscript. Read and proposed edits to the remainder.

2020 Journal Publications (N=18)

61. **Liang Z†**, Qiu Y, **Schnable JC** (2020) Distinct characteristics of genes associated with phenome-wide variation in maize (*Zea mays*). MOLECULAR PLANT doi: [10.1016/j.molp.2020.03.003](https://doi.org/10.1016/j.molp.2020.03.003) [10.1101/534503](https://doi.org/10.1101/534503)
Selected as an Editor's Choice by MaizeGDB Editorial Board May 2020
 JOURNAL IMPACT FACTOR (2020 REPORT): 12.1
 ALTMETRIC SCORE (PERCENTILE AT JOURNAL): 52 (96th)
 SCHNABLE LAB PERCENT CONTRIBUTION: 80%
 CONTRIBUTION STATEMENT: All aspects of the paper with the exception of generating the original statistical method (Y. Qiu).
60. **Miao C†**, Xu Y, Liu S, Schnable PS, **Schnable JC** (2020) Increased power and accuracy of causal locus identification in time-series genome-wide association in sorghum. PLANT PHYSIOLOGY doi: [10.1104/pp.20.00277](https://doi.org/10.1104/pp.20.00277) [10.1101/2020.02.16.951467](https://doi.org/10.1101/2020.02.16.951467)
"News and Views" highlighting this article by Y Yu doi: [10.1104/pp.20.00797](https://doi.org/10.1104/pp.20.00797)
 JOURNAL IMPACT FACTOR (2020 REPORT): 6.9
 ALTMETRIC SCORE (PERCENTILE AT JOURNAL): 29 (91st)
 SCHNABLE LAB PERCENT CONTRIBUTION: 80%
 CONTRIBUTION STATEMENT: Y. Xu ran a new type of statistical analysis he had generated at Iowa State, S. Liu and PS Schnable contributed genotyping data for the sorghum population, all other aspects of the paper carried out by Schnable lab members.
59. **Dai X†**, Xu Z, **Liang Z†**, Tu X, Zhong S, **Schnable JC**, Li P (2020) Non-homology based prediction of gene functions. THE PLANT GENOME doi: [10.1002/tpg2.20015](https://doi.org/10.1002/tpg2.20015) [10.1101/730473](https://doi.org/10.1101/730473)
 JOURNAL IMPACT FACTOR (2020 REPORT): 3.8
 ALTMETRIC SCORE (PERCENTILE AT JOURNAL): 16 (96th)
 SCHNABLE LAB PERCENT CONTRIBUTION: 90%
 CONTRIBUTION STATEMENT: Z Xu, X Tu, and S Song contributed data. P Li co-mentored X Dai with Prof. Schnable. All other aspects of the paper carried out by Schnable lab members.
58. **Miao C†**, **Pages A**, Xu Z, Rodene E, Yang J, **Schnable JC** (2020) Semantic segmentation of sorghum using hyperspectral data identifies genetic associations. PLANT PHENOMICS doi: [10.34133/2020/4216373](https://doi.org/10.34133/2020/4216373)
 JOURNAL IMPACT FACTOR (2020 REPORT): New Journal
 ALTMETRIC SCORE (PERCENTILE AT JOURNAL): 32 (93rd)
 SCHNABLE LAB PERCENT CONTRIBUTION: 80%
 CONTRIBUTION STATEMENT: R Rodene and J Yang contributed data. Z Xu advised on statistical analysis methods. All other aspects of the paper carried out by Schnable lab members.

57. **Carvalho DS†, Nishimwe AV, Schnable JC** (2020) IsoSeq transcriptome assembly of C₃ panicoid grasses provides tools to study evolutionary change in the Panicoideae. PLANT DIRECT [10.1002/pld3.203](https://doi.org/10.1002/pld3.203) [BIORxIV doi: 10.1101/689356](https://doi.org/10.1101/689356)
JOURNAL IMPACT FACTOR (2020 REPORT): 1.7
ALTMETRIC SCORE (PERCENTILE AT JOURNAL): 26 (92nd)
SCHNABLE LAB PERCENT CONTRIBUTION: 100%
CONTRIBUTION STATEMENT: N/A

56. **Lai X†, Bendix C, Yan L†, Zhang Y†, Schnable JC, Harmon F** (2020) Interspecific analysis of diurnal gene regulation in panicoid grasses identifies known and novel regulatory motifs. BMC GENOMICS doi: [10.1186/s12864-020-06824-3](https://doi.org/10.1186/s12864-020-06824-3)
Selected as an Editor's Choice by MaizeGDB Editorial Board October 2020
JOURNAL IMPACT FACTOR (2020 REPORT): 3.6
ALTMETRIC SCORE (PERCENTILE AT JOURNAL): 11 (91st)
SCHNABLE LAB PERCENT CONTRIBUTION: 75%
CONTRIBUTION STATEMENT: Plants were grown and RNA samples were collected in the Harmon lab. RNA-seq libraries were build and sequenced in the Schnable lab. Expression, comparative genomics, and promoter motif analysis conducted in the Schnable lab. Phylogenetic analysis of clock genes conducted in the Harmon lab.

55. Adams J, Qiu Y, Xu Y, **Schnable JC** (2020) Plant segmentation by supervised machine learning methods. THE PLANT PHENOME JOURNAL doi: [10.1002/ppj2.20001](https://doi.org/10.1002/ppj2.20001)
JOURNAL IMPACT FACTOR (2020 REPORT): New Journal
ALTMETRIC SCORE (PERCENTILE AT JOURNAL): 9 (71st)
SCHNABLE LAB PERCENT CONTRIBUTION: 25%
CONTRIBUTION STATEMENT: Provided the datasets employed in the paper. Originated idea for including neighborhood information for pixel classification. Drafted portions of the paper and revised the remainder.

54. **Raju SKK†, Atkins M, Enerson A, Carvalho DS†, Studer AJ, Ganapathysubramanian B, Schnable PS, Schnable JC** (2020) Leaf Angle eXtractor - A high throughput image processing framework for leaf angle measurement in maize and sorghum. APPLICATIONS IN PLANT SCIENCES doi: [10.1002/aps3.11385](https://doi.org/10.1002/aps3.11385)
JOURNAL IMPACT FACTOR (2020 REPORT): 1.6
ALTMETRIC SCORE (PERCENTILE AT JOURNAL): 25 (73rd)
SCHNABLE LAB PERCENT CONTRIBUTION: 75%
CONTRIBUTION STATEMENT: AJ Studer collaborated with JC Schnable in generating one of the several time lapse datasets analyzed. M Atkins, B Ganapathysubramanian and PS Schnable developed a new algorithm to track leaf angles in images. All other aspects of the paper conducted in the Schnable lab.

53. Han J, Wang P, Wang Q, Lin Q, Yu G, **Miao C†, Dao Y, Wu R, Schnable JC, Tang H, Wang K** (2020) Genome-wide characterization of DNase I-hypersensitive sites and cold response regulatory landscapes in grasses. THE PLANT CELL doi: [10.1105/tpc.19.00716](https://doi.org/10.1105/tpc.19.00716)
"In Brief" highlighting this article by SKK Raju doi: [10.1105/tpc.20.00471](https://doi.org/10.1105/tpc.20.00471)
JOURNAL IMPACT FACTOR (2020 REPORT): 9.6
ALTMETRIC SCORE (PERCENTILE AT JOURNAL): 20 (65th)
SCHNABLE LAB PERCENT CONTRIBUTION: 20%
CONTRIBUTION STATEMENT: Generating conserved noncoding sequence data, coming up with an implementing a method to compare patterns of change open chromatin data for equivalent regions of gene promoters across species.

52. Zheng Z, Hey S, Jubery T, Liu T, Yang Y, Coffey L, **Miao C†, Sigmon B, Schnable JC, Hochholdinger F, Ganapathysubramanian B, Schnable PS** (2020) Shared genetic control of root system architecture between *Zea mays* and *Sorghum bicolor*. PLANT PHYSIOLOGY doi: [10.1104/pp.19.00752](https://doi.org/10.1104/pp.19.00752)
JOURNAL IMPACT FACTOR (2020 REPORT): 6.9

ALTMETRIC SCORE (PERCENTILE AT JOURNAL): 41 (95th)

SCHNABLE LAB PERCENT CONTRIBUTION: 25%

CONTRIBUTION STATEMENT: Sorghum portion of paired maize and sorghum field trials. Developing and implementing a method to compare the outcomes of GWAS analyses between maize and sorghum.

51. Gaillard M*, **Miao C†***, **Schnable JC**, Benes B (2020) Voxel carving based 3D reconstruction of sorghum identifies genetic determinants of radiation interception efficiency. *PLANT DIRECT* doi: [10.1002/pld3.255](https://doi.org/10.1002/pld3.255) *BIORxIV* doi: [10.1101/2020.04.06.028605v1](https://doi.org/10.1101/2020.04.06.028605v1)
JOURNAL IMPACT FACTOR (2020 REPORT): 1.7
ALTMETRIC SCORE (PERCENTILE AT JOURNAL): 23 (88th)
SCHNABLE LAB PERCENT CONTRIBUTION: 50%
CONTRIBUTION STATEMENT: Schnable lab generated data. Benes lab analyzed data to construct 3D models. Schnable lab conducted the GWAS and analyzed the results. Writing was shared equally between the two groups.
50. Wang R, Qiu Y, Zhou Y, **Liang Z†**, **Schnable JC** (2020) A high-throughput phenotyping pipeline for image processing and functional growth curve analysis. *PLANT PHENOMICS* doi: [10.34133/2020/7481687](https://doi.org/10.34133/2020/7481687)
JOURNAL IMPACT FACTOR (2020 REPORT): New Journal
ALTMETRIC SCORE (PERCENTILE AT JOURNAL): 18 (74th)
SCHNABLE LAB PERCENT CONTRIBUTION: 20%
CONTRIBUTION STATEMENT: Contributed the image data used in this paper. Evaluated the outcomes of multiple iterations of the new code being developed. Drafted portions of the paper and edited the remainder.
49. Jarquin D, Howard R, **Liang Z†**, Gupta SK, **Schnable JC**, Crossa J (2020) Enhancing hybrid prediction in pearl millet using genomic and/or multi-environment phenotypic information of inbreds. *FRONTIERS IN GENETICS* doi: [10.3389/fgene.2019.01294](https://doi.org/10.3389/fgene.2019.01294)
JOURNAL IMPACT FACTOR (2020 REPORT):
ALTMETRIC SCORE (PERCENTILE AT JOURNAL): 8 (73rd)
SCHNABLE LAB PERCENT CONTRIBUTION: 10%
CONTRIBUTION STATEMENT: Diego, from our own department, should get the lion's share of credit for this paper. We had a cool dataset we were able to share with him and Reka (from Statistics). If he's claimed anything less than 70% credit on his own report, please bump him up.
48. **Raju SKK†**, Thompson AM, **Schnable JC** (2020) Advances in plant phenomics: From data and algorithms to biological insights. *APPLICATIONS IN PLANT SCIENCES* doi: [10.1002/aps3.11386](https://doi.org/10.1002/aps3.11386)
JOURNAL IMPACT FACTOR (2020 REPORT): 1.6
ALTMETRIC SCORE (PERCENTILE AT JOURNAL): 17 (66th)
SCHNABLE LAB PERCENT CONTRIBUTION: 67%
CONTRIBUTION STATEMENT: Drafted 2/3rds of the paper, edited the remaining 1/3.
47. Peng B, Guan K, Ainsworth EA, Asseng S, Bernacchi CJ, Cooper M, Delucia EH, Elliot JW, Ewert F, Grant RF, Gustafson DI, Hammer GL, Jin Z, Jones JW, Kimm H, Lawrence DM, Li Y, Lombardozzi DL, Marshall-Colon A, Messina CD, Ort DR, **Schnable JC**, Tang J, Vallejos CE, Wu A, Yin X, Zhou W (2020) Advancing multi-scale crop modeling for agricultural climate change adaptation assessment. *NATURE PLANTS* doi: [10.1038/s41477-020-0625-3](https://doi.org/10.1038/s41477-020-0625-3)
JOURNAL IMPACT FACTOR (2020 REPORT): 13.2
ALTMETRIC SCORE (PERCENTILE AT JOURNAL): 97 (76th)
SCHNABLE LAB PERCENT CONTRIBUTION: 4%
CONTRIBUTION STATEMENT: Drafted one section of the manuscript and edited and provided feedback for the remainder.
46. Benes B, Guan K, Lang M, Long S, Lynch J, Marshall-Colon A, Peng B, **Schnable JC**, Sweetlove L, Turk M (2020) Multiscale computational models can guide experimentation and targeted measurements for crop improvement. *THE PLANT JOURNAL* doi: [10.1111/tpj.14722](https://doi.org/10.1111/tpj.14722)

JOURNAL IMPACT FACTOR (2020 REPORT): 6.1

ALTMETRIC SCORE (PERCENTILE AT JOURNAL): 17 (86th)

SCHNABLE LAB PERCENT CONTRIBUTION: 10%

CONTRIBUTION STATEMENT: Drafted one section of the manuscript and edited and provided feedback for the remainder.

45. Moissejev G, Park K, Cui X, Freitas D, Rajagopa D, Konda A, Martin-Olenski M, Mcham M, Liu K, Du Q, **Schnable JC**, Moriyama E, Cahoon E, Chi Z (2020) RGPDB: Database of root-associated genes and promoters in maize, soybean, and sorghum. DATABASE doi: [10.1093/database/baaa038](https://doi.org/10.1093/database/baaa038)
JOURNAL IMPACT FACTOR (2020 REPORT): 2.6
ALTMETRIC SCORE (PERCENTILE AT JOURNAL): 7
SCHNABLE LAB PERCENT CONTRIBUTION: 7%
CONTRIBUTION STATEMENT: Provided a purality of data. Contributed to database design decisions. Edited the manuscript.
44. McFarland BA, AlKhalifah N, Bohn ... **Schnable JC** (34 of 54 authors) ... Xu W, Yeh CT, de Leon N (2020) Maize Genomes to Fields (G2F): 2014 –2017 field seasons' genotype, phenotype, climatic, soil and inbred ear image datasets. BMC RESEARCH NOTES doi: [10.1186/s13104-020-4922-8](https://doi.org/10.1186/s13104-020-4922-8)
JOURNAL IMPACT FACTOR (2020 REPORT): 1.3
ALTMETRIC SCORE (PERCENTILE AT JOURNAL): 25 (97th)
SCHNABLE LAB PERCENT CONTRIBUTION: 11%
CONTRIBUTION STATEMENT: Secured funding for and conducted yield trials and phenotyping for hundreds of ex-PVP hybrids in eight of sixty-eight total unique environments (eastern and western nebraska with and without irrigation in 2016 and 2017) covered in this data release paper.

2019 Journal Publications (N=10)

43. Qi P, Eudy D, **Schnable JC**, Schmutz J, Raymer P, Devos KM (2019) High density genetic maps of seashore paspalum using genotyping-by-sequencing and their relationship to the *Sorghum bicolor* genome. SCIENTIFIC REPORTS doi: [10.1038/s41598-019-48257-3](https://doi.org/10.1038/s41598-019-48257-3)
JOURNAL IMPACT FACTOR (2020 REPORT): 4.0
ALTMETRIC SCORE (PERCENTILE AT JOURNAL): 8 (67th percentile)
SCHNABLE LAB PERCENT CONTRIBUTION: 15%
CONTRIBUTION STATEMENT: Draft genome sequence used to generate one of the two sets of genetic maps used in this paper.
42. **Schnable JC** (2019) Genes and gene models, an important distinction. NEW PHYTOLOGIST doi: [10.1111/nph.16011](https://doi.org/10.1111/nph.16011)
JOURNAL IMPACT FACTOR (2020 REPORT): 8.5
ALTMETRIC SCORE (PERCENTILE AT JOURNAL): 45 (90th)
SCHNABLE LAB PERCENT CONTRIBUTION: 100%
CONTRIBUTION STATEMENT: N/A
41. Ge Y, Atefi A, Zhang H, **Miao C†**, Ramamurthy RK, **Sigmon B**, Yang J, **Schnable JC** (2019) High-throughput analysis of leaf physiological and chemical traits with VIS-NIR-SWIR spectroscopy: A case study with a maize diversity panel. PLANT METHODS doi: [10.1186/s13007-019-0450-8](https://doi.org/10.1186/s13007-019-0450-8)
JOURNAL IMPACT FACTOR (2020 REPORT): 3.6
ALTMETRIC SCORE (PERCENTILE AT JOURNAL): 25 (95th)
SCHNABLE LAB PERCENT CONTRIBUTION: 35%
CONTRIBUTION STATEMENT: Conducted field component of the research. J Yang & RK Ramamurthy conducted greenhouse component. Y Ge, A Atefi and H Zhang analyzed the data.
40. Ali MA, Wang X, Chen Y, Jiao Y, Mahal NK, Satyanarayana M, Castellano MJ, **Schnable JC**, Schnable PS, Dong L (2019) Continuous Monitoring of Nitrate Variation Using Miniature Soil Sensor with

- Poly(3-octyl-thiophene) and Molybdenum Disulfide Nanocomposite. ACS APPLIED MATERIALS & INTERFACES doi: [10.1021/acsami.9b07120](https://doi.org/10.1021/acsami.9b07120)
 JOURNAL IMPACT FACTOR (2020 REPORT): 8.8
 ALTMETRIC SCORE (PERCENTILE AT JOURNAL): 2
 SCHNABLE LAB PERCENT CONTRIBUTION: 10%
 CONTRIBUTION STATEMENT: Conducted field experiments to validate the sensor described in the manuscript.
39. Li Y, **Li D**, Jiao Y, **Schnable JC**, Li Y, Li H, Chen H, Hong H, Zhang T, Liu B, Liu Z, You Q, Tian Y, Gou Y, Guan R, Zhang L, Chang R, Zhang Z, Reif J, Zhou X, Schnable PS, Qiu L. (2019) Identification of Loci Controlling Adaptation in Chinese Soybean Landraces via a Combination of Conventional and Bioclimatic GWAS. PLANT BIOTECHNOLOGY JOURNAL doi: [10.1111/pbi.13206](https://doi.org/10.1111/pbi.13206)
 JOURNAL IMPACT FACTOR (2020 REPORT): 8.1
 ALTMETRIC SCORE (PERCENTILE AT JOURNAL):
 SCHNABLE LAB PERCENT CONTRIBUTION: 15%
 CONTRIBUTION STATEMENT: Designed concept and implementation strategy for bioclimactic GWAS using data on original GPS tagged collection locations of soybean lines. Outlined manuscript and edited draft written by collaborators.
 38. Atefi A, Ge Y, Pitla S, **Schnable JC** (2019) *In vivo* human-like robotic phenotyping of leaf traits in maize and sorghum. COMPUTERS AND ELECTRONICS IN AGRICULTURE doi: [10.1016/j.compag.2019.104854](https://doi.org/10.1016/j.compag.2019.104854)
 JOURNAL IMPACT FACTOR (2020 REPORT): 3.9
 ALTMETRIC SCORE (PERCENTILE AT JOURNAL): 142 (99th)
 SCHNABLE LAB PERCENT CONTRIBUTION: 25%
 CONTRIBUTION STATEMENT: Co-originated concept and approaches for validation and visualization. Drafted sections of manuscript and edited others.
 37. Li L, Li X, Li L, **Schnable JC**, Gu R, J Wang (2019) QTL identification and epistatic effect analysis of seed size- and weight-related traits in *Zea mays* L. MOLECULAR BREEDING doi: [10.1007/s11032-019-0981-8](https://doi.org/10.1007/s11032-019-0981-8)
 JOURNAL IMPACT FACTOR (2020 REPORT): 2.1
 ALTMETRIC SCORE (PERCENTILE AT JOURNAL): 6 (87th)
 SCHNABLE LAB PERCENT CONTRIBUTION: 15%
 CONTRIBUTION STATEMENT: Proposed additional analyses/visualizations. Drafted portions of the manuscript and edited others.
 36. **Yan Lt**, **Kumar SKK†**, **Lai Xt**, **Zhang Y†**, **Dai Xt**, Rodriguez O, Mahboub S, Roston RL, **Schnable JC** (2019) Parallels between artificial selection in temperate maize and natural selection in the cold-adapted crop-wild relative *Tripsacum*. THE PLANT JOURNAL doi: [10.1111/tpj.14376](https://doi.org/10.1111/tpj.14376) [10.1101/187575](https://doi.org/10.1101/187575) [BIORxiv doi: 10.1101/187575](https://doi.org/10.1101/187575)
 JOURNAL IMPACT FACTOR (2020 REPORT): 6.1
 ALTMETRIC SCORE (PERCENTILE AT JOURNAL): 20 (84th)
 SCHNABLE LAB PERCENT CONTRIBUTION: 90%
 CONTRIBUTION STATEMENT: O Rodriguez collected *tripsacum* accessions. RL Roston and S Mahboub generated lipid data. All other aspects of the paper conducted in the Schnable lab.
 35. Bai G, Ge Y, Scoby D, Leavit B, Irmak S, Graef G, **Schnable JC**, Awada T. (2019) NU-Spidercam: A large-scale, cable-driven, integrated sensing and robotic system for precision phenotyping, remote sensing, and agronomic research. COMPUTERS AND ELECTRONICS IN AGRICULTURE doi: [10.1016/j.compag.2019.03.009](https://doi.org/10.1016/j.compag.2019.03.009)
 JOURNAL IMPACT FACTOR (2020 REPORT): 3.9
 ALTMETRIC SCORE (PERCENTILE AT JOURNAL): 9 (76th)
 SCHNABLE LAB PERCENT CONTRIBUTION: 15%
 CONTRIBUTION STATEMENT: Conducted 1/2 of the field experiments described in this study.
 34. Zou C, Miki D, **Li D**, Tang Q, Xiao L, **Rajput S**, Deng P, Peng L, Huang R, Zhang M, Sun Y, Hu J, Fu X, Schnable P, Li F, Zhang H, Feng B, Zhu X, Liu R, **Schnable JC**, Zhu JK, Zhang H (2019) The

genome of broomcorn millet. NATURE COMMUNICATIONS doi: [10.1038/s41467-019-08409-5](https://doi.org/10.1038/s41467-019-08409-5)

JOURNAL IMPACT FACTOR (2020 REPORT): 12.1

ALTMETRIC SCORE (PERCENTILE AT JOURNAL): 89 (85th)

SCHNABLE LAB PERCENT CONTRIBUTION: 14%

CONTRIBUTION STATEMENT: Generated a genetic map using an asian/north american cross of *Panicum miliaceum* which was used to order and orient the scaffolds of the genome into pseudo-molecules.

2018 Journal Publications (N=11)

33. **Miao C†, Yang, J†, Schnable JC** (2018) Optimizing the identification of causal variants across varying genetic architectures in crops. PLANT BIOTECHNOLOGY JOURNAL doi: [10.1111/pbi.13023](https://doi.org/10.1111/pbi.13023) BIORxiv doi: [10.1101/310391](https://doi.org/10.1101/310391)
JOURNAL IMPACT FACTOR (2020 REPORT): 8.1
TIMES CITED TO DATE: 13
CONTRIBUTION STATEMENT: All analyses and writing conducted by lab members.
32. Ott A, **Schnable JC**, Yeh CT, Wu L, Liu C, Hu HC, Dolgard CL, Sarkar S, Schnable PS (2018) Linked read technology for assembling large complex and polyploid genomes. BMC GENOMICS doi: [10.1186/s12864-018-5040-z](https://doi.org/10.1186/s12864-018-5040-z)
JOURNAL IMPACT FACTOR (2020 REPORT): 3.6
TIMES CITED TO DATE: 15
CONTRIBUTION STATEMENT: Conducted an analysis of a linked read genome assembly of proso millet, a previously unsequenced allotetraploid grass to assess the accuracy with which separate subgenomes were assembled and resolved using this new linked-reads technique.
31. Liu S,* **Schnable JC**,* Ott A,* Yeh CT, Springer NM, Yu J, Meuhbauer G, Timmermans MCP, Scanlon MJ, Schnable PS (2018) Intragenic Meiotic Crossovers Generate Novel Alleles with Transgressive Expression Levels. MOLECULAR BIOLOGY AND EVOLUTION doi: [10.1093/molbev/msy174](https://doi.org/10.1093/molbev/msy174)
JOURNAL IMPACT FACTOR (2020 REPORT): 11.1
TIMES CITED TO DATE: 2
CONTRIBUTION STATEMENT: Analysis of relative correlation between recombination frequency per megabase and the relative density of either syntenic or nonsyntenic genes separately was conducted in the Schnable Lab@UNL.
30. **Raju SKK†**, Barnes A, **Schnable JC**, Roston RL§ (2018) Low-temperature tolerance in land plants: Are transcript and membrane responses conserved? PLANT SCIENCE doi: [10.1016/j.plantsci.2018.08.002](https://doi.org/10.1016/j.plantsci.2018.08.002)
JOURNAL IMPACT FACTOR (2020 REPORT): 3.6
TIMES CITED TO DATE: 17
CONTRIBUTION STATEMENT: Sunil and I wrote the portions of this review focused on conserved patterns transcriptional responses to cold stress across diverse plants, and worked collaboratively with the Roston lab on the combined transcript/lipid analyses.
29. **Miao C**, Fang J, Li D, Liang P, Zhang X, **Yang J†, Schnable JC**, Tang H§ (2018) Genotype-Corrector: improved genotype calls for genetic mapping. SCIENTIFIC REPORTS doi: [10.1038/s41598-018-28294-0](https://doi.org/10.1038/s41598-018-28294-0)
JOURNAL IMPACT FACTOR (2020 REPORT): 4.0
TIMES CITED TO DATE: 7
CONTRIBUTION STATEMENT: Improved and documented the core algorithm. Conducted tests of how much the core algorithm improved genotype call accuracy in a RIL and F2 population when using sub-optimal sequencing depth. Wrote the paper collaboratively with Haibao Tang.
28. Alkhalifah N, Campbell DA, Falcon CM, ... **Schnable JC** (31 of 44 authors) ... Spalding EP, Edwards J, Lawrence-Dill CJ (2018) Maize Genomes to Fields: 2014 and 2015 field season genotype, phenotype, environment, and inbred ear image datasets. BMC RESEARCH NOTES doi: [10.1186/s13104-018-3508-1](https://doi.org/10.1186/s13104-018-3508-1)

JOURNAL IMPACT FACTOR (2020 REPORT): 1.3

TIMES CITED TO DATE: 13

CONTRIBUTION STATEMENT: Data collection from grow outs of Genomes to Fields hybrids at Nebraska field sites, assisted in writing the manuscript itself.

27. **Liang Z†**, Gupta SK, Yeh CT, **Zhang Y†**, **Ngu DW**, Kumar R, Patil HT, Mungra KD, Yadav DV, Rathore A, Srivastava RK, Gupkta R, **Yang J**, Varshney RK, Schnable PS, **Schnable JC** (2018) Phenotypic data from inbred parents can improve genomic prediction in pearl millet hybrids. *G3: GENES GENOMES GENETICS* doi: [10.1534/g3.118.200242](https://doi.org/10.1534/g3.118.200242)

Selected as the outstanding scientific article of 2018 by ICRISAT's research program in Asia.

JOURNAL IMPACT FACTOR (2020 REPORT): 2.8

TIMES CITED TO DATE: 14

CONTRIBUTION STATEMENT: Built the libraries, analyzed the SNP data, conducted the GS tests, wrote the paper. Field data and extracted DNA contributed by ICRISAT collaborators. Sequencing and SNP calling contributed by ISU collaborators.

26. Xu Y, Qiu Y, **Schnable JC** (2018) Functional modeling of plant growth dynamics. *THE PLANT PHENOME JOURNAL* doi: [10.2135/tppj2017.09.0007](https://doi.org/10.2135/tppj2017.09.0007) *BIORxIV* doi: [10.1101/190967](https://doi.org/10.1101/190967)

Received the "Outstanding Paper Award" from TPPJ editorial board in 2020.

JOURNAL IMPACT FACTOR (2020 REPORT): Not yet assigned.

TIMES CITED TO DATE: 7

CONTRIBUTION STATEMENT: Conceived of the experiment to test subsampling on different days. Wrote the paper

25. **Carvalho DS†**, **Schnable JC**, Almeida AMR (2018) Integrating phylogenetic and network approaches to study gene family evolution: the case of the AGAMOUS family of floral genes. *EVOLUTIONARY BIOINFORMATICS* doi: [10.1177/1176934318764683](https://doi.org/10.1177/1176934318764683) *BIORxIV* doi: [10.1101/195669](https://doi.org/10.1101/195669)

JOURNAL IMPACT FACTOR (2020 REPORT): 2.1

TIMES CITED TO DATE: 2

CONTRIBUTION STATEMENT: Conducted the majority of the analyses. Wrote the paper.

24. **Lai X†**, **Yan L†**, Lu Y, **Schnable JC** (2018) Largely unlinked gene sets targeted by selection for domestication syndrome phenotypes in maize and sorghum. *THE PLANT JOURNAL* doi: [10.1111/tpj.13806](https://doi.org/10.1111/tpj.13806) *BIORxIV* doi: [10.1101/184424](https://doi.org/10.1101/184424)

JOURNAL IMPACT FACTOR (2020 REPORT): 6.1

TIMES CITED TO DATE: 11

CONTRIBUTION STATEMENT: All experiments, analysis, and writing conducted by lab members.

23. Nani TF, **Schnable JC**, Washburn JD, Albert P, Pereira WA, Sobrinho FS, Birchler JA, Techia VH (2018). Location of low copy genes in chromosomes of *Brachiaria* spp. *MOLECULAR BIOLOGY REPORTS* doi: [10.1007/s11033-018-4144-5](https://doi.org/10.1007/s11033-018-4144-5)

JOURNAL IMPACT FACTOR (2020 REPORT): 2.1

TIMES CITED TO DATE: 3

CONTRIBUTION STATEMENT: Identified candidate low copy genes which were used to design probes for hybridization.

2017 Journal Publications (N=12)

22. **Liang Z†**, **Schnable JC** (2017) Functional divergence between subgenomes and gene pairs after whole genome duplications. *MOLECULAR PLANT* doi: [10.1016/j.molp.2017.12.010](https://doi.org/10.1016/j.molp.2017.12.010)

JOURNAL IMPACT FACTOR (2020 REPORT): 12.1

TIMES CITED TO DATE: 29

CONTRIBUTION STATEMENT: All experiments, analysis, and writing conducted by lab members.

21. **Liang Z†**, Pandey P, Stoerger V, Xu Y, Qiu Y, Ge Y, **Schnable JC** (2017) Conventional and hyperspectral time-series imaging of maize lines widely used in field trials. *GIGASCIENCE* doi: [10.1093/giga-science/gix117](https://doi.org/10.1093/giga-science/gix117) *BIORxIV* doi: [10.1101/169045](https://doi.org/10.1101/169045)
JOURNAL IMPACT FACTOR (2020 REPORT): 6.95
TIMES CITED TO DATE: 25
CONTRIBUTION STATEMENT: All analyses and writing conducted by lab members. Ge, Qiu, and Xu labs each assisted in developing new analytical approaches. Vincent Stoerger assisted with data generation.
20. Gage J, Jarquin D, Romay M, ... **Schnable JC** (29th of 40 authors) ... Yu J, de Leon N (2017) The effect of artificial selection on phenotypic plasticity in maize. *NATURE COMMUNICATIONS* doi: [10.1038/s41467-017-01450-2](https://doi.org/10.1038/s41467-017-01450-2)
Selected as an Editor's Choice by MaizeGDB Editorial Board December 2017
JOURNAL IMPACT FACTOR (2020 REPORT): 12.1
TIMES CITED TO DATE: 42
CONTRIBUTION STATEMENT: Generated and contributed yield and field phenotyping data from Nebraska field sites of Genomes to Fields project.
19. Washburn JD, **Schnable JC**, Brutnell TP, Shao Y, **Zhang Y**, Ludwig M, Davidse G, Pires JC (2017) Genome-guided phylo-transcriptomic methods and the nuclear phylogenetic tree of the paniceae grasses. *SCIENTIFIC REPORTS* doi: [10.1038/s41598-017-13236-z](https://doi.org/10.1038/s41598-017-13236-z)
JOURNAL IMPACT FACTOR (2020 REPORT): 4.0
TIMES CITED TO DATE: 11
CONTRIBUTION STATEMENT: Grew plants, extracted RNA, built and sequenced libraries and shared data. Consulted with the lead author on the syntenic gene analysis.
18. Ott A, * Liu S, * **Schnable JC**, Yeh CT, Wang C, Schnable PS (2017) Tunable Genotyping-By-Sequencing (tGBS®) enables reliable genotyping of heterozygous loci. *NUCLEIC ACIDS RESEARCH* doi: [10.1093/nar/gkx853](https://doi.org/10.1093/nar/gkx853)
JOURNAL IMPACT FACTOR (2020 REPORT):
TIMES CITED TO DATE: 56
CONTRIBUTION STATEMENT: Wrote portions of the manuscript, designed additional analyses to validate datasets which were executed by Alina Ott.
17. **Lai X†**, **Schnable JC**, Liao Z, Xu J, Zhang G, Li C, Hu E, Rong T, Xu Y, Lu Y (2017) Genome-wide characterization of non-reference transposable elements insertion polymorphisms reveals genetic diversity in tropical and temperate maize. *BMC GENOMICS* doi: [10.1186/s12864-017-4103-x](https://doi.org/10.1186/s12864-017-4103-x)
JOURNAL IMPACT FACTOR (2020 REPORT): 3.6
TIMES CITED TO DATE: 10
CONTRIBUTION STATEMENT: The majority of this paper was written by Xianjun Lai during his time in the Schnable lab. I redesigned several analyses for him to carry out and helped to re-write the paper.
16. Mei W, Boatwright L, Feng G, **Schnable JC**, Barbazuk WB (2017) Evolutionarily conserved alternative splicing across monocots. *GENETICS* doi: [10.1534/genetics.117.300189](https://doi.org/10.1534/genetics.117.300189)
Cover Article October 2017 Issue
JOURNAL IMPACT FACTOR (2020 REPORT):
TIMES CITED TO DATE: 20
CONTRIBUTION STATEMENT: Conceived and designed a new approach to identifying orthologous plant exons based on a directed acyclic graph which was robust to the insertion or deletion of entire introns.
15. Pandey P, Ge Y, Stoerger V, **Schnable JC** (2017) High throughput in vivo analysis of plant leaf chemical properties using hyperspectral imaging. *FRONTIERS IN PLANT SCIENCE* doi: [10.3389/fpls.2017.01348](https://doi.org/10.3389/fpls.2017.01348)
JOURNAL IMPACT FACTOR (2020 REPORT): 4.4
TIMES CITED TO DATE: 91

CONTRIBUTION STATEMENT: Designed a different cross validation technique which was implemented by the first author. Drafted portions of the introduction and discussion and revised the manuscript.

14. **Zhang Y†**, **Ngu DW**, **Carvalho D†**, **Liang Z†**, Qiu Y, Roston RL, **Schnable JC** (2017) Differentially regulated orthologs in sorghum and the subgenomes of maize. *THE PLANT CELL* doi: [10.1105/tpc.17.00354](https://doi.org/10.1105/tpc.17.00354) *Selected as an Editor's Choice by MaizeGDB Editorial Board* August 2017
JOURNAL IMPACT FACTOR (2020 REPORT): 9.6
TIMES CITED TO DATE: 34
CONTRIBUTION STATEMENT: All analyses and writing conducted by lab members. Qiu lab assisted in developing new analytical approaches to comparing gene expression across species. Roston lab assisted in interpreting biological responses to plant cold stress.
13. **Lai X†***, Behera S*, **Liang Z†**, Lu Y, Deogun JS, **Schnable JC** (2017) STAG-CNS: An order-aware conserved noncoding sequence discovery tool for arbitrary numbers of species. *MOLECULAR PLANT*. doi: [10.1016/j.molp.2017.05.010](https://doi.org/10.1016/j.molp.2017.05.010)
JOURNAL IMPACT FACTOR (2020 REPORT): 12.1
TIMES CITED TO DATE: 8
CONTRIBUTION STATEMENT: I defined the problem, Sairam Behera created the algorithm, Zhikai Liang and Xianjun Lai, both from my group, conducted multiple rounds of biological validation and provided feedback to Sairam, improving the core algorithm in an iterative process. My lab wrote the paper.
12. **Lai X†**, **Schnable JC** (2017) Harnessing the potential of the tea tree genome. *MOLECULAR PLANT*. doi: [10.1016/j.molp.2017.05.009](https://doi.org/10.1016/j.molp.2017.05.009)
JOURNAL IMPACT FACTOR (2020 REPORT): 12.1
TIMES CITED TO DATE: 2
CONTRIBUTION STATEMENT: All analyses and writing conducted by lab members.
11. Mei W, Liu S, **Schnable JC**, Yeh C, Springer NM, Schnable PS, Barbazuk WB (2017) A comprehensive analysis of alternative splicing in paleopolyploid maize. *FRONTIERS IN PLANT SCIENCE* doi: [10.3389/fpls.2017.00694](https://doi.org/10.3389/fpls.2017.00694)
JOURNAL IMPACT FACTOR (2020 REPORT): 4.4
TIMES CITED TO DATE: 43
CONTRIBUTION STATEMENT: Developed approach to identifying orthologous exons across both maize subgenomes and co-orthologous genes in sorghum (an earlier iteration of the algorithm later used for paper # 42). Consulted with the lead author on the best ways to make comparisons across subgenomes.

Conference Articles & Book Chapters 2021-2017

2021 Conference Articles & Book Chapters (N=3)

10. Khan SH, Tope S, Dalpati R, Kim KH, Noh M, Bulbul A, **Mural RV**, Banerjee A, **Schnable JC**, Ji M, Mastrango C, Zang L, Kim H. (2021) Development of a gas sensor for green leaf volatile detection. *TRANSDUCERS 2021* doi: [10.1109/Transducers50396.2021.9495597](https://doi.org/10.1109/Transducers50396.2021.9495597)

2020 Conference Articles & Book Chapters (N=3)

9. Gaillard M, **Miao C†**, **Schnable JC**, Benes B (2020) Sorghum Segmentation by Skeleton Extraction. *COMPUTER VISION PROBLEMS IN PLANT PHENOTYPING (CVPPP 2020)* Glasgow, UK

8. Sankaran S, Zhang C, **Hurst JP**†, Marzougui A, Sivakumar ANV, Li J, **Schnable JC**, Shi Y (2020) Investigating the potential of satellite imagery for high-throughput field phenotyping applications. SPIE DEFENSE + COMMERCIAL SENSING California, USA doi: [10.1117/12.2558729](https://doi.org/10.1117/12.2558729)
 7. Al-Zadjali A, Shi Y, Scott S, Deogun JS, and **Schnable JC** (2020) Faster-R-CNN based deep learning for locating corn tassels in UAV imagery. SPIE DEFENSE + COMMERCIAL SENSING California, USA doi: [10.1117/12.2560596](https://doi.org/10.1117/12.2560596)
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2019 Conference Articles & Book Chapters (N=5)

6. **Miao C**†, **Pages A**, Xu Z, **Schnable JC** (2019) Sorghum organ classification in hyperspectral images using supervised machine learning classification methods. SECOND INTERNATIONAL WORKSHOP ON MACHINE LEARNING FOR CYBER-AGRICULTURAL SYSTEMS (MLCAS 2019) Ames, IA, USA
 5. **Askey B**, Yang Q, Benson AK, **Schnable JC** (2019) Computer vision phenotyping of 371 Sorghum bicolor BTx623 x ISC3620C recombinant inbred lines for QTL detection. SECOND INTERNATIONAL WORKSHOP ON MACHINE LEARNING FOR CYBER-AGRICULTURAL SYSTEMS (MLCAS 2019) Ames, IA, USA
 4. Jiao Y, Wang X, Chen Y, Castellano MJ, **Schnable JC**, Schnable PS, Dong L (2019) In-planta nitrate detection using insertable plant microsensor. 20TH INTERNATIONAL CONFERENCE ON SOLID-STATE SENSORS, ACTUATORS AND MICROSYSTEMS Berlin, Germany doi: [10.1109/TRANSDUCERS.2019.8808527](https://doi.org/10.1109/TRANSDUCERS.2019.8808527)
 3. Ali MA, Wang X, Chen Y, Jiao Y, Castellano MJ, **Schnable JC**, Schnable PS, Dong L (2019) Novel all-solid-state soil nutrient sensor using nanocomposite of poly(3-octyl-thiophene) and molybdenum sulfate. 20TH INTERNATIONAL CONFERENCE ON SOLID-STATE SENSORS, ACTUATORS AND MICROSYSTEMS Berlin, Germany doi: [10.1109/TRANSDUCERS.2019.8808341](https://doi.org/10.1109/TRANSDUCERS.2019.8808341)
 2. Clark J, Qiu Y, **Schnable JC**. (2019) Experimental design for controlled environment high throughput plant phenotyping. High Throughput Plant Phenotyping: Methods and Protocols. Editor: Argelia Lorence Publisher: Springer, New York, NY.
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2017 Conference Articles & Book Chapters

1. Behera S, Deogun JS, **Lai X**†, **Schnable JC** (2017) B529 DiCE: Discovery of Conserved Noncoding Sequences Efficiently. IEEE BIBM 2017 Kansas City, MO, USA doi: [10.1109/BIBM.2017.8217628](https://doi.org/10.1109/BIBM.2017.8217628)
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