**Peer reviewed paper published acknowledging ISA support (Oct’16 – Mar’17):**

1. Naik HS, Zhang J, Lofquist A, Assefa T, Sarkar S, et al. (2017) A real-time phenotyping framework using machine learning for plant stress severity rating in soybean. Plant Methods 13: 23.

2. Zhang J, Naik HS, Assefa T, Sarkar S, Reddy RVC, et al. (2017) Computer vision and machine

learning for robust phenotyping in genome-wide studies. Scientific Reports 7: 44048.

3. Jubery TZ, Shook J, Parmley K, Zhang J, Naik HS, et al. (2016) Deploying Fourier Coefficients to

Unravel Soybean Canopy Diversity. Frontiers in Plant Science 7: 2066.

4. Moellers TC (#), A Singh, J Zhang, J Brungardt, M Kabbage, DS Mueller, CR Grau, A Ranjan, DL

Smith, RV Chowda-Reddy, AK Singh\* (2017). Main and epistatic loci studies in soybean for

Sclerotinia sclerotiorum resistance reveal multiple modes of resistance in multi-environments.

Scientific Reports. 7, Article number: 3554.

5. de Azevedo Peixoto L, Moellers TC, Zhang J, Lorenz AJ, Bhering LL, Beavis WD, et al. (2017)

Leveraging genomic prediction to scan germplasm collection for crop improvement. PLoS ONE

12(6): e0179191.

**Student presentations in conferences/ significant meetings acknowledging ISA support (Oct’16 – Sept’17):**

1. Higgins, RH and Singh, AK. “Can high-throughput phenotyping help predict soybean yield in

contrasting environments?” (Dec. 2016) 4th International Plant Phenotyping Symposium - CIMMYT.

El Batan, Mexico & (Feb. 2017) Soybean Breeder’s Workshop. St. Louis, MO & (March 2017) ISU

Plant Breeding Symposium. Ames, IA.

2. Higgins, RH “Uncovering biomass partitioning and residue quality traits for soybean improvement”

(March 2017) United Soybean Board High Protein Project Meeting. Chesterfield, MO.

3. Higgins, RH “G x M – leveraging phenomic tools to understand yield drivers” (August 2017) Visiting

Monsanto breeder group. Ames, IA

4. Ibore M et al. Characterization of the Molecular Basis of Resistance to Soybean Aphids (Aphis

glycines Matsumura). The Stupka Symposium. ISU, Ames, IA.

5. Falk K et al. Studies of Root System Architecture in Soybean using Computer Vision and Stereo

Imaging. March 2017 RF Baker Plant Breeding Symposium

6. Falk K et al. Studies of Root System Architecture in Soybean using Computer Vision and Machine

Learning. Dec. 2016 - IPPS - CIMMYT Mexico.

7. Falk K et al. Studies of Root System Architecture in Soybean using Computer Vision. Purdue Plant Science Symposium, Aug 3, 2017, and in Iowa State University Mini Soybean Symposium, Sept 13, 2017.

8. Parmley, K., et al. Customizing soybean cultivar development through aerial and ground

phenotyping. Purdue Plant Science Symposium. West Lafayette, IN, 2017.

9. Parmley, K. et al. Customizing soybean cultivar development through aerial and ground phenotyping.

4th International Plant Breeding Symposium. CIMMYT, Mexico, 2016.

10. Jubery T, J Shook, et al (2017) Deploying Fourier coefficients to unravel soybean canopy diversity.

**Colorado State University- NSF-NRT meeting.**

11. Zhang J., Naik H.S., Assefa T., Sarkar S., Reddy R.V., Singh A., Ganapathysubramanian B. and

Singh A.K. Image-based phenotyping and machine learning to advance genome-wide association and prediction analysis in soybean. CIMMYT 4th International Plant Phenotyping Symposium, 2016, Texcoco, Mexico.

**Talks**

1. Singh AK (2017). “Phenomics: another hype or something more?”, Soynbean Breeder’s

Workshop. Feb 14, 2017.

2. Singh AK and KG Falk (2017). “How Can We Use Genetic Diversity to Improve Soybean

Production: Tapping the Hidden Potential Through Roots”, Iowa Soybean Association Research

Conference. Feb 8, 2017.

3. Singh AK (2016). “Soybean Breeding Program at ISU”, RF Baker Center for Plant Breeding.

Ames, November 2, 2016.

4. Singh AK (2016). “The role of soybean breeding program at ISU for interdisciplinary research”, RF Baker Center for Plant Breeding. Ames, November 2, 2016.

5. Higgins, RH “Uncovering biomass partitioning and residue quality traits for soybean

improvement” (March 2017) United Soybean Board annual meeting. Chesterfield, MO.

6. Singh AK and K Falk. How can we use Genetic Diversity to Improve Soybean Production:

Tapping the Hidden Potential Through Roots. February 2017 Iowa Soybean Association Research Conference

7. Singh AK, K Falk. How can We Use Genetic Diversity to Improve Soybean Production: Tapping

the Hidden Potential Through Roots ISA Research Conference 2017 (Singh and Falk) (Feb 8,

2017)

8. Falk K, AK Singh. Leveraging Advanced Technologies to Learn about Soybean Root Systems.

IA Soybean Research Center Annual Meeting (Sept 8, 2017).

9. Parmley, K. “Management Driven Breeding.” Singh soybean breeding group host of Japanese

visitors. Ames, IA 2017

10. Parmley, K., Falk, K. “Drivers of Yield: What We Know.” Muscatine Island Research and

Demonstration Farm Field Day. Muscatine, OK, 2017

11. Parmley, K. “The Yield Puzzle.” Singh soybean breeding group Monsanto breeding lead visit.

Ames, IA, 201

12. Parmley, K., Higgins, RH. “Seed composition traits in three studies.” United Soybean Board

High Protein Project Meeting. Chesterfield, MO, 2016.

**Awards**

1. Race Higgins 4th Graduate & Professional Student Research Conference Contest. 3-Minute

Thesis - 3rd place $250 award -“Uncovering biomass partitioning and residue quality traits for

soybean improvement” (April 2017)

2. Falk K. NSF World Soybean Research Conference Travel Award (2017)

3. Falk K. Purdue University Graduate Student Scholarship Travel Award (2017)

4. Falk K. Monsanto Travel Award (2016)

5. Parmley K. Travel award recipient, Purdue Plant Science Symposium. West Lafayette, IN, 2017.