

# NARINDER SINGH

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## SUMMARY

Geneticist and breeder with extensive experience in R-programming, bioinformatics, high performance and cloud computing, data analysis, trait phenotyping, genotyping, breeding methodology, germplasm development and genetic mapping.

## EDUCATION

- 2017 **PhD** – Genetics. Wheat Genetics Resource Center. Kansas State University.
- 2013 **MS** – Plant & Environmental Science. Statistics minor. New Mexico State University.
- 2010 **Post Graduate Diploma** – Computer applications. Punjab Agricultural University.
- 2010 **Bachelor of Science (Hons.)** – Crop Science. Punjab Agricultural University.

## EXPERIENCE AND SKILLS

- Since '17 **Fellow Post-Doc.** Kansas State University.
- 2016 **Genomic Data Analyst.** Heartland Plant Innovations, Manhattan, KS.
- 2013-17 **Graduate Research and Teaching Assistant.** Kansas State University.
- 2010-13 **Graduate Research and Teaching Assistant.** New Mexico State University.
- 2008-10 **Undergraduate Research Assistant.** Punjab Agricultural University.
- Skills-** Next-generation sequencing (big) data handling. Bioinformatics. Data analysis. R, Python, Java and SQL programming. Linux/Unix and high-performance and cloud computing. Wide hybridization and germplasm development. Embryo rescue. Genotyping-by-sequencing. Whole genome and RNAseq data analysis. Bi-parental and genome wide association studies. Marker development. Experimental design. Yield trials. Scientific writing.

## PUBLICATIONS

1. Singh, N., S. Wu, W. J. Raupp, S. Sehgal, S. Arora, V. Tiwari, P. Vikram, S. Singh, P. Chunneja, B. S. Gill, and J. Poland. 2018. *Efficient Curation of Genebanks Using Next Generation Sequencing Reveals Substantial Duplication of Accessions*. (In review)
2. Arora, S., N. Singh, S. Kaur, N.S. Bains, C. Uauy, J. Poland, and P. Chhuneja. 2017. *Genome-Wide Association Study of Grain Architecture in Wild Wheat Aegilops tauschii*. Front. Plant Sci. 8.
3. Cramer, C.S., N. Kamal, N. Singh. 2017. *Evaluating Iris yellow spot disease incidence and severity in onion germplasm varying in leaf characteristics*. HortScience 52(4): 527–532.
4. Tiwari, V.K., S. Wang, T. Danilova, D.H. Koo, J. Vrána, M. Kubaláková, E. Hribova, N. Rawat, B. Kalia, N. Singh, B. Friebe, J. Doležel, E. Akhunov, J. Poland, J.S. Sabir, and B.S. Gill. 2015. *Exploring the tertiary gene pool of bread wheat: Sequence assembly and analysis of chromosome 5Mg of Aegilops geniculata*. Plant J, 84: 733–746.
5. Cramer, C.S., N. Singh, N. Kamal, and H.R. Pappu. 2014. *Screening onion plant introduction accessions for tolerance to onion thrips and iris yellow spot*. HortScience 49(10): 1253–1261.

## Germplasm releases

1. Narinder Singh, Ryan Steeves, Ming-Shun Chen, Mustapha El-Bouhssini, Michael Pumphrey, and Jesse Poland. 2017. Notice of release of KS18WGRC65 Hessian fly resistant hard red winter wheat germplasm.

## LEADERSHIP, COMMUNITY & MEMBERSHIPS

- 2016-17 **Co-organizer.** 3<sup>rd</sup> K-State Biennial Plant Breeding and Genetics Symposium.
- Treasurer.** Plant Breeding and Genetics Club, Kansas State University.

- 2015-16 **President.** Plant Breeding and Genetics Club, Kansas State University.  
**Graduate Student Liaison.** NAPB Membership Committee.  
**Vice President.** Indian Students Association, Kansas State University.  
2014-15 **President.** Plant Pathology Graduate Student Club, Kansas State University.  
2012 **Organizing Staff Member.** National Allium Research Conference, Las Cruces, NM.

## AWARDS, HONORS & SCHOLARSHIPS \*

\* Full list is available upon request.

- 2017 Tillman Family Agriculture Graduate Student Award  
2017 Borlaug Summer Institute on Global Food Security Fellowship  
2017 American Seed Research Foundation Operation Student Connection Award  
2017 Gerald O. Mott Meritorious Graduate Student Award in Crop Science  
2016 Crop Science Society of America Graduate Student Leadership Conference Award  
2016 Ruby Newhall Scholarship, Gyp Hills Pilot Club - Pilot International  
2016 K-State Alumni Association International Student Scholarship  
2015 Don C. Warren Genetic Fund Scholarship  
2013 New Mexico Crop Production Association Scholarship

## SELECTED PRESENTATIONS

\* Full list is available upon request.

### Invited

1. Narinder Singh. *Simultaneous introgression and mapping of Hessian fly resistance from *Aegilops tauschii* in wheat.* Gene Introgression Workshop, The International Plant and Animal Genome XXV Conference, San Diego, CA, Jan 2017.
2. Narinder Singh. *Assessing and mining genetic diversity in *Aegilops tauschii* collections.* 2<sup>nd</sup> International Academic Conference for Graduate Students, Nanjing, China, Oct 2015.

### Oral

1. Narinder Singh. *Developing representative core sets from genebanks.* 33<sup>rd</sup> Annual Plant Sciences Graduate Student Symposium, University of Saskatchewan, Saskatoon, SK, Canada, Mar 2017.
2. Narinder Singh, Sunish Sehgal, Shuangye Wu, Vijay Tiwari, John Raupp, Bikram Gill and Jesse Poland. *Efficient Selection of Donor Lines from Gene Banks Using Genomic Approaches.* Crop Science Society of America, Phoenix, AZ, Nov 2016.
3. Narinder Singh. *Trait analysis for *Aegilops tauschii* genes using AutoAlloOctaploids (AABBDDdd).* NSF WGRC I/UCRC webinar, Manhattan, KS, Jul 2016.

### Posters

1. Narinder Singh, Michael Pumphrey, Ming-Shun Chen, and Jesse Poland. *Simultaneous introgression and mapping of Hessian fly resistance from *Aegilops tauschii* in wheat.* The International Plant and Animal Genome XXV Conference, San Diego, CA, Jan 2017.
2. Narinder Singh and Jesse Poland. *Wheat Germplasm Development and Genetic Mapping for Hessian Fly Resistance.* Crop Science Society of America, Phoenix, AZ, Nov 2016.
3. Narinder Singh and Jesse Poland. *Wheat Germplasm Development and Genetic Mapping for Hessian Fly Resistance.* Research and the State poster session, K-State, Manhattan, KS, Nov 2016.
4. Narinder Singh, Sunish Sehgal, Shuangye Wu, Vijay Tiwari, John Raupp, Bikram Gill, and Jesse Poland. *Efficient donor selection from genebanks.* National Association for Plant Breeders Meeting, Raleigh, NC, Aug 2016.