Research Profile

First Name: Venugopal (Kal) **Middle Initial:** **Last Name:** Kalavacharla
Title: Assistant Professor (tenure-track)
Department/School: Department of Agriculture & Natural Resources, College of Agriculture and Related Sciences
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Professional Education:

- Ph.D., Plant Science, North Dakota State University-Fargo, May 2001
- M.S., Plant Science, University of Manitoba-Winnipeg, May 1996
- B.S., Agriculture, Punjabrao Agricultural University-India, June 1993

Research Interest Area(s):

Plant Molecular Genetics & Genomics

Sub-areas: Development of molecular genetic and genomic resources for studying plant genomes, Physical mapping of the wheat genome, Disease resistance signal transduction in dry bean (*Phaseolus vulgaris*), Integration of research and teaching in the biological sciences.

Active Grants & Funding:

- Undergraduate Research & Mentoring in the Biological Sciences, Principal Investigator. Funding agency: National Science Foundation *(to be submitted October 30, 2006*).
- Plant Genome Research Program: Construction of high-resolution physical map of the hexaploid wheat genomes: I: the D genome chromosomes (Co-PI on this proposal along with collaborators from North Dakota State University (PI), Oregon State University, University of California-Davis, USDA-Albany-CA, Mayville State University). Funding agency: National Science Foundation *(to be submitted October 6, 2006).*
- REU Site: Undergraduate Research in Molecular Genetics & Genomics at Delaware State University, Principal Investigator (Co-PIs: Drs. Fox, Labreveux, McIntosh, Ozbay, Taylor (DSU), Dr. Everett (Wesley College), Dr. Peck and Ms. Wiggins (DTCC), Dr. Fifield (DERDC/Univ. of Delaware). Funding agency: National Science Foundation *(submitted August 17, 2006).*
- USWBSI, Principal Investigator, Saturation mapping and contig development for Qfhs.ndsu-3AS, a major FHB locus in durum wheat. Funding agency: USDA; duration: 2002-2003.
- USWBSI, Principal Investigator, Development of a BAC contig spanning a major FHB QTL in durum wheat. Funding agency: USDA; duration: 2001-2002.

Professional Affiliations:

- Member, American Society for Plant Biology
- Member, American Association for the Advancement of Science
- Member, Crop Science Society of America

Honors & Awards received (last five years):

- Strategic Educational Initiative Program, Office of the Provost, Drexel University, Principal Investigator, Development of a Plant Molecular Genetics & Genomics (Course), 2004
- Presidential Travel Award, North Dakota State University, 2001

Publications (last three years): (19) 2003-2006.

Kalavacharla, V.S., Hossain, K., Gu, Y., Riera-Lizarazu, O., Vales, I., Maan, S.S., Bhamidimarri, S., Gonzalez-Hernandez, J. and Kianian, S.F. 2006. High resolution radiation hybrid mapping of wheat chromosome 1D. *Genetics 173: 1089-1099*.

Kalavacharla, V.S., Hossain, K.G., Maan, S.S. and Kianian, S.F. 2005. Nuclear cytoplasmic interactions in wheat. Invited Book Chapter: *Recent Res.Devel. Genet. Breeding, 2:71-84*.

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Lazo, G. R., Chao, S., Hummel, D.D., Edwards, H., Crossman, C.C., Lui, N., Matthews, D.E., Carollo, V.L., Hane, D., You, F.M., Butler, E., Miller, R.E., Close, T.J., Peng, J.H., Lapitan, N.L.V., Gustafson, J.P., Qi, L.L., Echalier, B., Gill, B.S., Dilbirligi, M., Sandhu, D., Gill, K.S., Greene, R.A., Sorrells, M.E., Akhunov, E.D., Dvorak, J., Linkiewicz, A.M., Dubcovsky, J. Hossain, K.G., *Kalavacharla, V.*, Kianian, S.F., Mahmoud, A.A., Miftahudin, Ma, X.-F., Conley, E.J., Anderson, J.A., Pathan, M.S., Nguyen, H.T., McGuire, P.E., Qualset, C.O., and Anderson, O. D. 2004. Development of an expressed sequence tag (EST) resource for wheat (Triticum aestivum L.): EST generation, unigene analysis, probe selection, and bioinformatics for a 16,000-locus bin-delineated map. *Genetics 168:585-593*.

Munkvold, J.D., Greene, R.A., Bermudez-Kandianis, C.E., La Rota, C.M., Edwards, H., Sorrells, S.F, Dake, T., Benscher, D., Kantety, R., Linkiewicz, A.M., Dubcovsky, J., Akhunov, E.D., Dvorak, J., Miftahudin, Gustafson, J.P., Pathan, M.S., Nguyen, H.T., Matthews, D.E., Chao, S., Lazo, G. R., Hummel, D.D., Anderson, O.D., Anderson, J.A., Gonzalez-Hernandez, J.L., Peng, J.H., Lapitan, N.L.V., Qi, L.L., Echalier, B., Gill, B.S., Hossain, K.G., *Kalavacharla, V.*, Kianian, S.F., Sandhu, D., Erayman, M., Gill, K.S., McGuire, P.E., Qualset, C.O., and Sorrells, M.E. 2004. Group 3 chromosome bin maps of wheat and their relationship to rice chromosome 1. *Genetics 168:639-650*.

Hossain, K.G., Riera-Lizarazu, O., *Kalavacharla, V.S.*, Isabel-Vales, M., Maan, S.S. and Kianian, S.F. 2004. Radiation hybrid mapping of a species cytoplasm specific (scs^{ae}) gene in wheat. *Genetics 168: 415-423*.

Peng, J.H., Zadeh, H., Lazo, G. R., Gustafson, J.P., Chao, S., Anderson, O.D., Qi, L.L., Echalier, B., Gill, B.S., Dilbirligi, M., Sandhu, D., Gill, K.S., Greene, R.A., Sorrells, M.E., Akhunov, E.D., Dvorak, J., Linkiewicz, A.M., Dubcovsky, J., Hossain, K.G., *Kalavacharla, V.*, Kianian, S.F., Mahmoud, A.A., Miftahudin, Conley, E.J., Anderson, J.A., Pathan, M.S., Nguyen, H.T., McGuire, P.E., Qualset, C.O., and Lapitan, N.L.V. 2004. Chromosome bin map of expressed sequence tags in homoeologous group 1 of hexaploid wheat and homoeology with rice and Arabidopsis. *Genetics 168:609-623*.

Randhawa, H.S., Dilbirligi, M., Sidhu, D., Erayman, M., Sandhu, D., Bondareva, S. Chao, S., Lazo, G. R., Anderson, O.D., Miftahudin, Gustafson, J.P., Echalier, B., Qi, L.L., Gill, B.S., Akhunov, E.D., Dvorak, J., Linkiewicz, A.M., Ratnasiri, A., Dubcovsky, J., Bermudez-Kandianis, C.E., Greene, R.A., Sorrells, M.E., Conley, E.J., Anderson, J.A., Peng, J.H., Lapitan, N.L.V., Hossain, K.G., *Kalavacharla, V.*, Kianian, S.F., Pathan, M.S., Nguyen, H.T., Endo, T.R., Close, T.J., Mcguire, P.E., Qualset, C.O., and Gill, K.S. 2004. Deletion mapping of homoeologous group 6-specific wheat ESTs. *Genetics 168:677-686*.

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Akhunov, E. D., Goodyear, J. A., Geng, S., Qi, L.-L., Echalier, B., Gill, B. S., Lazo, G. R., Chao, S., Anderson, O. D., Linkiewicz, A. M., Dubcovsky, J., La Rota, M., Sorrells, M. E., Nguyen, H. T., Gustafson, J. P., *Kalavacharla, V.*, Hossain, K., Kianian, S. F., Peng, J., Lapitan, N. L. V., Gonzalez-Hernandez, J. L., Anderson, J. A., Choi, D. W., Close, T. J., Dilbirligi, M., Gill, K. L., Walker-Simmons, M. K., Steber, C., McGuire, P. E., Qualset, C. O., and Dvorak, J. 2003. The organization and rate of evolution of the wheat transcriptome are correlated with recombination rates along chromosome arms. *Genome Research 13:753-763*.

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