Vinay Panwar, Ph.D.
Brief Bio

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Summary of Qualifications and Professional Objectives

Plant Biologist with over twelve years of international research experience in deciphering mechanisms of plant-microbe interactions and improving agronomic performance of crop plants for enhancing yields. Made major contributions in advancing basic and applied plant science by developing various state-of-the-art technologies and concepts used for identifying novel genetic targets and modulating beneficial plant traits to accelerate crop variety development. I am interested in applying my expertise in plant molecular biology, RNAi, disease diagnostics, plant pathology, genetic engineering, plant virology, functional and applied genomics to advance research in agricultural crop sustainability with the goal of uncovering products, methods or technologies that can be applied to improve profitability, competitiveness, sustainability and self-sufficiency of the Agri-Food industry.

Key Publications

1. Torti, S., Schlesier, R., Tümmler, A., Bartels, D., Römer, P., Koch, B., Werner, S., **Panwar, V.**, Kanyuka, K., von Wirén, N., Jones, J. D. G., Hause, G., Giritch, A., Gleba., Y. (2021). Transient reprogramming of crop plants for agronomic performance. *Nature Plants*. 7:159-171.
   IF: 15.793

2. Upadhyaya, N., Mago, R., **Panwar, V.**, Hewitt, T., Luo, M., Sperschneider, J., Nguyen-Phuc, H., Wang, A., Ortiz, D., Hac, L., Chen, J., Li, F., Zhang, J., Figueroa, M., Kanyuka, K., Ellis, J., and Dodd P. (2021). Genomics-accelerated isolation of a new stem rust avirulance gene-wheat resistance gene pair. *Nature Plants*. 7:1220-1228.
   IF: 15.793

3. Wood-Machado, A. K., **Panwar, V.**, Grimwade-Mann, M., Ashfield, T., Hammond-Kosack, K., and Kanyuka, K.(2021). The vesicular trafficking system component MIN7 is required for minimizing Fusarium graminearum infection. *Journal of Experimental Botany*. 72: 5010-5023.
   IF: 7.860

4. **Panwar, V.**, Jordan, M., Mccallum, B. and Bakkeren, G. (2017). Host-induced silencing of essential genes in Puccinia triticina through transgenic expression of RNAi sequences reduces severity of leaf rust infection in wheat. *Plant Biotechnology Journal*. 16: 1013-1023.
   IF: 9.803

5. Cuomo, C.A., Bakkeren, G., Khalil, H.B., **Panwar, V.**, Joly, D., Linning, R., Sakthikumar, S., Song, X., Adiconis, X., Fan, L., Goldberg, J.M., Levin, J.Z., Young, S., Zang, Q., Anikster, Y., Bruce, M., Wang, M., Yin, C., McCallum, B., Szabo, L.J., Hulbert, S., Chen, X., and Fellers, J. (2016). Comparative analysis highlights variable genome content of wheat rusts and divergent of the mating loci. *G3: Genes|Genomes|Genetics*. 7:361-376.
   IF: 3.154

6. **Panwar, V.**, McCallum, B., and Bakkeren, G. (2013). Host-induced gene silencing of wheat leaf rust fungus *Puccinia triticina* pathogenicity genes mediated by the *Barley stripe mosaic virus*. *Plant Molecular Biology*. 81(6): 595-608.
   ***Article featured on the Journal cover page.*
   (Media coverage: Highlighted as a work of special interest on gene silencing in phytopathogenic fungi: Baulcombe, D.C. (2015) Curr Opin Plant Biol, 26:141-146)
   IF: 4.076

7. **Panwar, V.**, McCallum, B., and Bakkeren, G. (2013). Endogenous silencing of *Puccinia triticina* pathogenicity genes through *in-planta* expressed sequences leads to suppression of rust diseases on wheat. *Plant Journal* 73(3): 521-532.
   IF: 6.417