CURRICULUM VITAE
Roberto J. Peña Bautista
2020

Name: Roberto Javier Peña Bautista
Education:

B. Sc.: Food Chemistry and Technology, 1977, Chemistry School, UNAM, México, D.F. México
M. Sc.: Cereal Chemistry and Technology, 1979, Kansas State University, Manhattan, Kansas, USA.
Ph. D.: Cereal Chemistry and Technology, 1984, University of Manitoba, Winnipeg, Manitoba, Canada.

Brief description of working experience

Joined the International Maize and Wheat Improvement Center (CIMMYT) as Post-Doctoral Fellow in 1984 and became Head of Wheat Quality in 1993, and Principal Scientist in 2002. International consultant in wheat quality since 2013. Retired from CIMMYT to initiate activities in 2014 as International consultant in Cereal Chemist, with main emphasis in wheat.

Activities were related to the following research areas:

- Understanding the genetic control of gluten proteins, main polysaccharides, grain hardness, among other compositional and functional factors determining processing and nutritional quality of wheat, and its suitability for diverse end-uses.
- Continuous participation in breeding high yield potential-disease resistant cultivars possessing desirable processing and end-use quality for diverse uses, and improvement of the processing and nutritional quality of wheat in mainly developing countries.
- Continuous participation in training scientists from developing countries in wheat quality improvement through courses offered at CIMMYT and at the country level (China, Ethiopia, Turkey, Pakistan), or by serving as supervisor for their graduate and undergraduate students.

Activity as consultant (since 2014).

- Lobbing in Mexico for support to specific research actions to improve production of high quality wheat.
- Writing review articles and book chapters acting mainly as coauthor
- Training scientists from mainly developing countries in wheat quality improvement through short (1-2 weeks) courses, workshops (as per invitation to organize or participate in China, Turkey, Paraguay) and, occasionally, by serving as supervisor for graduate and undergraduate students.
- Very limited activity during 2020. All potential activities cancelled due to Co Vid 19. To resume some in 2021.

Awards:

- Scholarship from the National Council of Science and Technology, Mexico, for M. Sc. studies, 1977-1979.
- Scholarship from the National Council of Science and Technology, Mexico, for Ph.D. studies, 1981-1984.
- Appointed Honorary Researcher of the Rural Development administration (RDA), National Institute of Crop Science, South Korea for the periods 2004-2007 and 2010-2012.
- Qilu (Friendship) Award in 2010, granted by the Provincial Government of Shandong, for significant achievements and contribution to develop improved wheat in the Shandong Province and in other provinces in China.
- Appointed Fellow of the academy of the International Association for Cereal Science and Technology (ICC). Aug 2012 (Beijing, China)

More than 150 research articles in international refereed journals and book chapters.

Recent articles

2018

1. Battenfield Sarah D., Sheridan Jaime L., Silva Luciano D. C. E., Miclaus Kelci J., Dreisigacker Susanne, Wolfinger Russell, Peña Roberto J., Singh Ravi P., Jackson Eric W., Fritz Allan. K., Guzman Carlos, Poland Jesse A. 2018. Breeding-assisted genomics: Applying meta-GWAS for milling and baking quality in CIMMYT wheat breeding program. PLoS ONE 13 (11): e0204757. https://doi.org/10.1371/journal.pone.0204757

2017

2. Esmaeilzadeh Moghaddam M., Jalal Kamali M. R., Pena R. J. and Najafian G. 2017. Genetic diversity for high- and low-molecular weight glutenin subunits in local and commercial bread wheat cultivars released since 1951 in Iran: I- Irrigated. Crop Breeding Journal 7 (1 & 2): 1-7.
3. Esmaeilzadeh Moghaddam M., Jalal Kamali M. R., Pena R. J. and Roostaei M. 2017. Genetic diversity for high- and low-molecular weight glutenin subunits in local and commercial bread wheat cultivars released since 1951 in Iran: II- Rainfed. Crop Breeding Journal 7 (1 & 2): 9-14.
4. Lado Bettina, Battenfield Sarah, Guzmán Carlos, Quincke Martín, Singh Ravi P., Dreisigacker Susanne, **Peña R. Javier**, Fritz Allan, Silva Paula, Poland Jesse, and Lucía Gutiérrez. 2017. Strategies for Selecting Crosses Using Genomic Prediction in Two Wheat Breeding Programs. The Plant Genome 10 (2)1-12.
5. Carlos Guzmán, Enrique Autrique, Suchismita Mondal, Julio Huerta-Espino, Ravi P. Singh,Mateo Vargas, Jose Crossa, Arnoldo Amaya, **Roberto Javier Peña**. 2017. Genetic improvement of grain quality traits for CIMMYT semi-dwarf spring bread wheat varieties developed during 1965–2015: 50 years of breeding. Field Crops Research 2010:192-196**.**

6. Jones Julie M, **Peña Roberto J**, Korczak Renee, and Braun Hans J. 2017. Carbohydrates, Grains, and Whole Grains and Disease Prevention Part IV. Cancer Risk: Lung, Prostate, and Stomach. Cereal Foods World. 62:14-22
7. Jones Julie M, Korczak Renee, **Peña Roberto J**, and Braun Hans J. 2017. Carbohydrates and Vitamins from Grains and Their Relationships to Mild Cognitive Impairment, Alzheimer's Disease, and Parkinson's Disease. Cereal Foods World. 62:65-75.
8. Jones Julie M, Korczak Renee, **Peña Roberto J**, and Braun Hans J. 2017. Impact of Minerals, Phytochemicals, Specific Grain-Based Foods, and Dietary Patterns on Mild Cognitive Impairment, Alzheimer's Disease, and Parkinson's Disease. Cereal Foods World. 62:104-114.
9. Jones Julie M, Peña Roberto J, Korczak Renee, and Braun Hans J. 2017. Role of Carbohydrates and Grains in Nutrition and Neurological Disorders: Headache, Attention Deficit Hyperactivity Disorder, and Depression. Cereal Foods World. 62:162-171.
10. Peña-Bautista, R. J., Hernandez-Espinosa, N., Jones, J. M., Guzman, C., Braun, H. J. 2017. Wheat-based foods: Their global and regional importance in the food supply, nutrition, and health. Cereal Foods World 62:231-249.

2016

11. Ayala M., Guzman C., Peña R.J., and Alvarez J.B. 2016. Genetic diversity and molecular characterization of puroindoline genes (Pina-D1 and Pinb-D1) in bread wheat landraces from Andalusia (Southern Spain) 2016. J Cereal Science 71:61-65.
12. Battenfield S.D., Guzman C., Gaynor R. C., Singh R.P., Peña R.J., Dreisigacker S., Fritz A.K., and Poland J. 2016. Genomic selection for Processing and End-Use Quality Traits in the CIMMYT Spring Bread Wheat Breeding Program. The Plant Genome 9:1-12
13. Crossa J., Jarquin D., Franco J., Perez-Rodriguez P., Burgueño J., Saint-Pierre C., Vikram P., Sansaloni C., Petroli C., Akdemir D., Sneller C., Reynolds M., Tattaris M., Payne T., Guzman C., Peña R.J., Wenzl P., Singh S. 2016 Genomic Prediction of Gene Bank Wheat Landraces. Genes-Genome-Genetics 6:1819-1832
14. Guzman C., Peña R.J., Siongh R.P., Autrique E., Dreisigacker S., Corssa J., Rutkoski J., Poland J., Battenfield S.D. 2016. Wheat quality improvement at CIMMYT and the use of genomic selection on it. Applied & Translational Genomics 11:3-8
15. Jones J.M: Peña, R.J., Korczak R., and Braun H. 2016. Carbohydrates, Grains, and Wheat in Nutrition and Health: Their relationship to digestion, digestive disorders, blood glucose, and inflammation. Cereal Foods World 61:4-17
16. Jones JM., Peña R.J. Korczak R., and Braun H.J. 2016. Carbohydrates, Grains, and Whole Grains and Disease Prevention. Part I. Body weight and obesity. Cereal Foods World. 61:96-105.
17. Jones JM., Peña R.J. Korczak R., and Braun H.J. 2016. Carbohydrates, Grains, and Whole Grains and Disease Prevention. Part II. Blood pressure, metabolic syndrome, and diabetes. Cereal Foods World. 61:106-122.

18. Korczak R., Jones JM., Peña R.J., Braun H.J. 2016. Carbohydrates and Their Grain Sources: A Review on their Relationships to Brain Health. Cereal Foods World 61:143-156.

2015

19. Li Y.F., Wu Y., Hernandez-Erspinosa N., Peña R.J. 2015 Comparing small-scale testsin methods for predicting wheat gluten strength across environments. Cereal Chemistry 92:231-215
20. Bonafede M.D., Tranquilli G., Pfluger LO.A., **Peña R.J**., Dubcovsky J. 2015. Effect of allelic variation at the *Glu-3*/*Gli-1* loci on breadmaking quality parameters in hexaploid wheat (Triticum aestivum L.). J Cereal Science. 62:143-150.
21. Guzman C., Posadas-Romano G., Hernandez-Espinosa N., Morales-Dorantes A., Anayeli, Peña R. J. 2015. A new standard water absorption criteria based on solvent retention capacity (SRC) to determine dough mixing properties, viscoelasticity, and bread-making quality. J Cereal Sci. 66: 59-65
22. Guzman C., Ortega R., Yamamori M., **Peña R.J**., Alvarez J.B. 2015. Molecular characterization of two novel *null* waxy alleles in Mexican bread wheat landraces. J Cereal Science 62:8-14.
23. Jones J.M., **Peña R.J**., Korczak R., Braun H.J. 2015. Carbohydrates, grains, and wheat in nutrition and health: An overview. Part II. Grain terminology and nutritional contributions. Cereal Foods World. Nov.-Dec. 2015. 60: 260-271.
24. Jones J.M., **Peña R.J**., Korczak R., Braun H.J. 2015. Carbohydrates, grains, and wheat in nutrition and health: An overview. Part I. Role of carbohydrates in health. Cereal Foods World. Sept-Oct. 2015. 60: 224-233.
25. Lopes M.S., Dreisigacker S., **Peña R.J.**, Sukumaran S., Reynolds M.P. 2015. Genetic characterization of wheat association mapping initiative (WAMI) panel for dissection of complex traits in spring wheat. Theoretical and Applied Genetics. 128:453-464.

2014

26. Peña R.J. Braun, H.J, and Mollins, J. 2014. Anti-Wheat Fad Diets Undermine Global Food Security Efforts. Wheat consumption healthy despite claims in self-help publications. CIMMYT, Discussion Paper.Pp. 29
27. Ahn J.H., Kang C.-S., Jeung J. –U., Baik J. –U., **Peña R.J**., Park C.S. 2014. Effect of allelic variations at the *Glu-D1*, *Glu-A3*, *Glu-B3* and *Pinb-D1* loci on flour characteristics and bread loaf volume. International Food Research Journal. 21:1177-1185.
28. Dreisigacker S., **Peña-Bautista R.J**., Hernandez-Espinoza N., Guzman C., Villaseñor-Mir H.E. 2014. Uso de marcadores moleculares en el mejoramiento de la calidad de trigo. Mexico, DF.: CIMMYT. Pp.10
29. Grahmann K., Verhulst N., **Peña R.J**., Buerkert A., Vargas-Rojas L, Govaerts B. 2014 Durum wheat (Triticum durum L.) quality and yield affected by tillage-straw management and nitrogen fertilization practice under furrow-irrigated conditions. Field Crops Research. http://dx.doi.org/10.1016/j.fcr.2014.05.002

30. Guzman C., Medina-Larqué A.S., Velu G., Gonzalez-Santoyo H., Singh R.P., Huerta-Espino J., Ortiz-Monasterio I., **Peña R.J**. 2014. Use of wheat genetic resources to develop biofortified wheat with enhanced grain zinc and iron concentrations and desirable processing quality. J Cereal Science 60:617-622.
31. Hao Y., Velu G., **Peña R.J.**, Singh S., Singh R.P. 2014. Genetic Loci associated with high zoinc concentration and pleiotropic effect on kernel weight in wheat (*Triticum aestivum* L.). Molecular Breeding. DOI 10.1007/s11032-014-0147-7
32. Macharia G.K., **Peña R.J**., Simsek, J., and Anderson A. 2014. Variation at glutenin subunit loci, single kernel characterization and evaluation of grain protein in East African bread wheat varieties. Euphytica. DOI 10.1007/s10681-014-1077-5
33. Nazco, R., **Peña, R.J.**, Ammar, K., Villegas, D., Crossa, J., Moragues, M., and Royo C. 2014. Variability in glutenin subunit composition of Mediterranean durum wheat germplasm and its relationship with gluten strength. Journal of Agricultural Science 2014, 152, 379–393.
34. Nazco, R., **Peña, R.J**., Ammar, K., Villegas, D., Crossa, J., and Royo C. 2014. Durum wheat (Triticum durum Desf.) Mediterranean landraces as sources of variability for allelic combinations at Glu-1/Glu-3 loci affecting gluten strength and pasta cooking quality. Genet Resour Crop Evol. DOI 10.1007/s10722-014-0104-7
35. Subira, J., **Peña R.J**., Álvaro, F., Ammar, K., Ramdani, A., and Royo, C. 2014. Breeding progress in the pasta-making quality of durum wheat cultivars released in Italy and Spain during the 20th Century. *Crop & Pasture Science*, 2014, **65**, 16–26

Book Chapters

2002-2020

1. Haraszi R., Ikeda, T.M., **Peña R.J**., and Branlard G. 2020. Gluten Analysis In: G. Igrejas, C, T. Ikeda, and C Guzman(editors).Wheat Quality for Improving Processing and Human Health Springer Nature Switzerland AG, Chapter 6, p. 109-143
2. Johansson E., Branlard B., Cuniberti M., Flagella Z., Hüsken A., Nurit E., **Peña R.J**., Sissons M., and Vazquez D. 2020. Genotypic and Environmental Effects on Wheat Technological and Nutritional Quality. In: G. Igrejas, C, T. Ikeda, and C Guzman(editors).Wheat Quality for Improving Processing and Human Health Springer Nature Switzerland AG, Chapter 6, p. 171-204.
3. Miller Jones Julie, **Roberto J. Peña**, Braun Hans-Joachim Guzmán Carlos, Hernández-Espinosa Nayeli, Korczak Renee, and Julie Mollins, CIMMYT. 2017. The wheat and nutrition series: A compilation of studies on wheat and health. Papers published by CIMMYT and as part of a special series in Cereal Foods World, during 2014-17. Pp.165. CDMX: CIMMYT
4. **Peña, R.J**. and Posadas-Romano, G. **2013**. Potential Use of the Mixolab in Wheat Breeding. In: A. Dubat, M. Rosell, and M. Tulbek (eds.). Mixolab Handbook. Pp79-84
5. E. Meng, A. Lyons, and **R.J. Peña**. Wheat Quality in the Developing World: Trends and Opportunities. In: Dixon, J., H-J. Braun, P. Kosina, and J. Crouch. (eds.). **2009.** *Wheat facts and Futures 2009*. Mexico, D. F.:CIMMYT. pp. 26-41.
6. Mergoum, M., Singh, P.K., **Peña, R.J**., Lozano-del Rio, A.J., Cooper, K.V., Salmon, D.F., and Gomez Macpherson, H. **2009**. Triticale: A "New" Crop with Old Challenges. In: Carena, M.C. (ed). Handbook of Plant Breeding. Cereals. Springer Scienec + Bussiness Media, LLC. 2009. pp 267-287.

7. Aquino, P.; **Peña, R.J**.; Ortiz-Monasterio, I. **2008**.Mexico y el CIMMYT. México, DF (México): CIMMYT 40 p. Location: CIM 0477-R / CIMMYT Publications Collection. Electronic Access (Public).
8. Mergoum, M., Singh, P.K., Anderson, J.A., **Peña, R.J**., Singh, R.P., Xu, S.S, and Ransom, J.K. **2009**. Spring Wheat Breeding. In: Carena, M.C. (ed). Handbook of Plant Breeding. Cereals. Springer Science + Bussiness Media, LLC.2009. pp 127-156.
9. **Peña, R. J**. and W.H. Pfeiffer. **2005**. Breeding methodologies and strategies for durum wheat quality improvement. Chapter 22 pp. 663-702. In: C. Royo, M.N. Nachit, N. Di Fonzo, J.L. Araus, W.H. Pfeiffer, and G. A. Slafer (eds.), Durum Wheat Breeding: Current approaches and future strategies. Food Product Press. The Haworth Press Inc., New York.
10. Mergoum, M.H., Pfeiffer, W.H., and **Peña, R.J**. **2004**. Triticale improvement. In: Mergoum, M., and Gomez-Macpherson, H. (Eds.). pp. 11-26. Triticale Improvement and Production. FAO Plant Production and Protection Paper 179. FAO, Rome.
11. **Peña, R. J**. **2004**. Food uses of Triticale. In Mergoum and H. Gomez-Macpherson (eds.), pp., 37-48. Triticale improvement and production. FAO Plant Production and Protection Paper 179. FAO, Rome.
12. **Peña, R. J**. Wheat for bread and other foods. **2002**. In B.C. Curtis, S. Rajaram, and H. Gomez Macpherson (eds.) FAO-UN, Rome, pp.483-494.
13. **Peña, R.J**., Trethowan, R.M., Pfeiffer, W.H., and van Ginkel. **2002**. Quality (end-use) improvement in wheat. Compositional, genetic, and environmental factors. In: A.S. Basra and L.S. Randhawa (eds.). Quality Improvement in Field Crops. Food Product Press (an imprint of Haworth Press, Inc.), New York, pp. 1-37.