

CURRICULUM VITAE

Marco Antonio López-Cruz

1. PERSONAL INFORMATION

Date of Birth: June 19th, 1985
Place of Birth: Chiapas, Mexico
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2. EDUCATION

PhD student in Plant Breeding, Genetics & Biotechnology. January 2015 – up-to-date
Michigan State University, East Lansing, MI, USA.
Advisor: Gustavo de los Campos, Ph.D.

Master of Science in Applied Statistics. January 2010 - December 2011. GPA: 95/100
Colegio de Posgraduados, Montecillo, Texcoco, State of México, México.
Thesis: “Application of Bayesian Elastic Net and Related Methods in Genomic Selection based on Molecular Markers”
Advisor: Paulino Perez Rodriguez, Ph.D.

Bachelor in Statistics. July 2003 – June 2008. GPA: 86/100
Universidad Autonoma Chapingo, Texcoco, State of México, México.
Thesis: “Computer system for the solution of linear programming problems”.
Advisor: Angel Leyva Ovalle M.S.

3. PROFESSIONAL EXPERIENCE

Consultant in the Biometrics and Statistics Unit of CIMMYT, (International Maize and Wheat Improvement Center)
November 2010 – December 2014.
CIMMYT, El Batán, Texcoco, State of México, México.

Responsibilities:

- Development, evaluation and implementation of parametric and non-parametric methods for the prediction of genomic values using dense marker panels and pedigree for wheat and maize.
- Development of a customized data-analyses pipeline for implementing genome-wide selection in the CIMMYT Maize and Wheat breeding programs.

- Training and support in statistical analyses for researchers from other areas in CIMMYT.
- Develop a JAVA interface with R codes written with the objective to perform routine statistical analyses for breeders. These tools are already used by CIMMYT breeders. The software is very friendly to users and it produces a large number of useful estimates for the breeders.

4. PUBLICATIONS

2015. **Marco Lopez-Cruz**, Jose Crossa, David Bonnett, Susanne Dreisigacker, Jesse Poland, Jean-Luc Jannink, Ravi P. Singh, Enrique Autrique and Gustavo de los Campos, "Increased prediction accuracy in wheat breeding lines using a marker \times environment interaction genomic selection model", G3: GENES, GENOMIC, GENETICS, 5(4), 569-582 [doi: [10.1534/g3.114.016097](https://doi.org/10.1534/g3.114.016097)].
2015. X Zhang, P Pérez-Rodríguez, K Semagn, Y Beyene, R Babu, **MA López-Cruz**, F San Vicente, M Olsen, E Buckler, J-L Jannink, BM Prasanna and J Crossa, "Genomic Prediction in Bi-parental Tropical Maize Populations in Water-stressed and Well-watered Environments Using Low Density and GBS SNPs", HEREDITY, 114, 291-299 [doi: [10.1038/hdy.2014.99](https://doi.org/10.1038/hdy.2014.99)].
2013. Jose Crossa, Yoseph Beyene, Semagn Kassa, Paulino Pérez, John M Hickey, Charles Chen, Gustavo de Los Campos, Juan Burgueño, Vanessa S Windhausen, Ed Buckler, Jean-Luc Jannink, **Marco A Lopez Cruz** and Raman Babu, "Genomic Prediction in Maize Breeding Populations with Genotyping-by-Sequencing", G3: GENES, GENOMIC, GENETICS, 3(11), 1903-1926 [doi: [10.1534/g3.113.008227](https://doi.org/10.1534/g3.113.008227)].

5. SOFTWARE

2015. G. Alvarado, **M. López**, M. Vargas, A. Pacheco, F. Rodríguez, J. Burgueño, J. Crossa, "META-R (Multi Environment Trial Analysis with R for Windows) Version 5.0", International Maize and Wheat Improvement Center [<http://hdl.handle.net/11529/10201>]

6. TRAINING AND TEACHING ACTIVITIES

- 3-days special training to several scientists of the Global Maize and Wheat breeding programs in the use of the META-R software, CIMMYT, Mexico, 2014.
- Supporting in teaching at the "Prediction and Genomic Selection International Course", CIMMYT-Colpos: Texcoco, Mexico, September 2013.

7. PROCEEDINGS AND ABSTRACTS

2016. Enciso, Felix E., Gustavo de los Campos, **Marco Lopez**, Joseph Coombs, and David Douches, "Statistical Methods for Genome Wide Association Analysis for Late Blight and Scab Resistance in Potato". 100th Annual Meeting of The Potato Association of America, Michigan, USA.
2015. Jose Crossa, Gustavo de los Campos, Paulino Perez-Rodriguez, Sergio Perez-Elizalde, Osva A. Montesinos-Lopez, Jaime Cuevas, **Marco Lopez-Cruz** and Daniel Gianola, "New Developments in Plant Genomic Prediction Models". Plant & Animal Genome Conference XXIII, California, USA.
2013. Ephrem Habyarimana, Susanne Dreisigacker, P K Singh, Yann Manes, Jose Crossa and **Marco A Lopez Cruz**, "Accuracy of Genomic Selection models and their ability to safeguard genetic variability under different marker design matrices and genetic backgrounds in CIMMYT spring wheat". International Symposium: Genetics and Breeding of Durum Wheat, Rome, Italy.
2012. Gary Atlin, Edward S Buckler, Jean-Luc Jannink, Susan R McCouch, Vanessa S Windhausen, Raman Babu, Jose Crossa, **Marco Lopez**, Jeffrey Endelman, Rajeev Varshney, Hei Leung, Charles Hash, Yoseph Beyene and Kassa Semagn, "Progress and Challenges in the Use of High-Density Genetic Markers by CGIAR Breeding Programs to Increase Genetic Gains for Major Food Crops in the Developing World". ASA, CSSA and SSSA International Annual Meeting, Ohio, USA.

8. POSTERS

2016. Enciso, Felix E., Gustavo de los Campos, **Marco Lopez**, Joseph Coombs, and David Douches, "Breeding Value Prediction for Late Blight and Scab Resistance in Tetraploid Potato using Whole-Genome Regressions". 100th Annual Meeting of The Potato Association of America, Michigan, USA.
2011. **M López Cruz**, P Perez-Rodríguez, G de los Campos and J Crossa. "Application of Bayesian Elastic Net and Related Methods in Genomic Selection based on Molecular Markers", XXVI National Statistics Forum, Tabasco, Mexico.

9. FELLOWSHIPS AND AWARDS

2014. Recipient of the Monsanto Beachell-Borlaug International Scholars Program (MBBISP) scholarships.

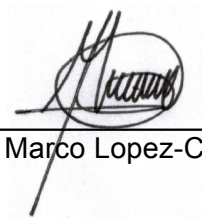
10. PERSONAL REFERENCES

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Signed: _____



Marco Lopez-Cruz

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