

## **Jianxin Ma, Ph.D.**

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### **A. Education**

Ph.D., Plant Genetics and Breeding, 1999, Chinese Academy of Agricultural Sciences  
M.S., Plant Genetics and Breeding, 1996, Chinese Academy of Agricultural Sciences  
B.S., Crop Science, 1993, Laiyang (*current* Qingdao) Agricultural University

### **B. Academic Appointments**

2015- Professor, Department of Agronomy, Purdue University  
2011-2015 Associate Professor, Department of Agronomy, Purdue University  
2007-2011 Assistant Professor, Department of Agronomy, Purdue University  
2006-2007 Research Assistant Professor, Department of Agronomy, Purdue University  
2005-2006 Research Geneticist, Department of Agronomy, Purdue University  
2003-2005 Postdoctoral Associate, Department of Genetics, University of Georgia  
2000-2003 Postdoctoral Associate, Department of Biological Sciences, Purdue  
1999-2000 Assistant Professor, Chinese Academy of Agricultural Sciences (CAAS)

### **C. Awards and Honors**

University Senator (2015-), Purdue University  
SigmaXi Rsearch Award Nominee (2015), Purdue University  
Agricultural Research Award Nominee 2015; 2014), College of Agriculture, Purdue University  
Richard L. Kohls Outstanding Teaching Award Nominee (2015), College of Agriculture, Purdue University  
University Faculty Scholar (2012-2017), Purdue University  
Seeds for Success Award, Purdue University (2009, 2012)  
Sigma Xi, National Honor Society (2010-)  
Millionaire's Club Award (2009), College of Agriculture, Purdue University  
National One Hundred Excellent Doctoral Dissertation (2001), China  
Excellent Research Paper (2000), China Genetics Society  
Outstanding Doctoral Graduate (1999), CAAS  
Excellent Doctoral Dissertation (1999), CAAS

### **D. Teaching**

AGRY320 Introductory Genetics  
AGRY480 Plant Genetics

### **E. Professional Services**

#### Editorial Boards of Scientific Journals and Reviewers

|                  |   |              |
|------------------|---|--------------|
| Associate Editor | G3: Genes, Genomes, Genetics            | 2014-Present |
| Associate Editor | Crop Journal                            | 2013-Present |
| Associate Editor | American Journal of Molecular Biology   | 2013-Present |
| Review Editor    | Frontier in Plant Genetics and Genomics | 2010-Present |
| Associate Editor | Soybean Science                         | 2010-Present |

#### Ad-hoc Manuscript Reviewers

Served as reviewers for >60 peer-reviewed journals/publishers including Nature Genetics, Nature Communications, PNAS, Genome Research, Plant Cell, Genome Biology, Molecular

Biology and Evolution, PLoS Genetics, Plant Physiology, Plant Journal, Molecular Plant, New Phytologist, Nucleic Acids Research, TAG etc.

#### Research Grant Panelists

Served as Panelists for U.S. National Science Foundation (DBI and IOS), USDA-NIFA, U.S. Sun Grant Initiative (SGI), and National Natural Science Foundation of China (NSFC).

#### Ad-hoc Research Grant Reviewers

Served as research grant reviewers for NSF, USDA-NIFA, USDA-ARS, SGI, U.S. Civilian R&D Foundation (CRDF), Binational Agricultural R&D Fund US-Israel (BARD), NSFC, and Qatar Foundation.

### **F. Funding Summary**

Dr. Ma's research program has been supported by NSF, USDA, United Soybean Board, North Central Soybean Research Program, Indiana Soybean Alliance, Dow AgroSciences, and Ag. Alumni Seeds etc. The total funding awarded to Dr. Ma and co-workers is **~\$16 millions**, of which Dr. Ma is directly responsible for **\$4.8 millions** for research in the Ma laboratory.

### **G. Mentoring of Postdocs and Graduate Students**

#### Graduate Students

- Weidong Wang, Ph.D. candidate (2015-), advisor: Dr. Ma
- Liyang Chen, Ph.D. candidate (2015-), Ross Fellowship (2015), advisor: Dr. Ma
- Annie Brown, Ph.D. candidate (2011-), co-advisors: Drs. Hudson and Ma.
- Jieqing Ping, Ph.D., 2015, advisor: Dr. Ma. Nyquist Scholarship Awards (2015), Department of Agronomy, Purdue University, 2015; *Outstanding Ph.D. Graduate Research Award* Department of Agronomy, Purdue University, 2014; *Bauman-Doolittle Endowment Fund Travel Award*, Department of Agronomy, Purdue University, 2014; *Graduate School Travel Award*, Purdue University, 2014; *Excellent Poster Award* (2<sup>nd</sup> Place), Soybean Breeders Workshop, 2013. Current position: Research Associate, Bayer CropScience.
- Feng Lin, Ph.D., 2013. Dr. Ma is major advisor. *Nyquist Scholarship Award* (2015), Department of Agronomy, Purdue University. Current position: Research Manager, Pioneer Inc., China
- Meixia Zhao, Ph.D., 2012, visiting student from CAAS. Current position: Postdoctoral Associate, Purdue University.
- Mirayda Torres-Torres, Ph.D., 2013, co-advisors: Drs. Jackson and Ma. Current position: Lecturer, U. Texas-Pan American.
- Aiko Iwata, Ph.D., (2013), co-advisors: Drs. Jackson and Ma. Current position: Postdoctoral Associate, Univ. Pennsylvania.
- Trulie Campbell, Ph. D., 2013, co-advisors: Drs. Jackson and Ma. Current position: Research Scientist, Dow Agrosciences. *United Soybean Board Research Fellowship* (2009-2013).
- Liucun Zhu, Ph.D. 2010, visiting student from Nanjing University, Current Position: Associate Professor, Shanghai University.

#### Postdoctoral Associates

- Dr. Zhenyan Miao (2014-)
- Dr. Dajian Zhang (2014-)
- Dr. Lianjun Sun (2011-).
- Dr. Meixia Zhao (2013-2015). Current position: Postdoc, Purdue University
- Dr. Yunfeng Liu (2011- 2014). Current position: Postdoc, University of Nebraska

- Dr. Maoyun Shi (2011-2012). Current position: Assistant Professor, Anhui Academy of Agricultural Sciences.
- Dr. Yi Sui (2011-2011). Current position: Assistant Professor, Chinese Academy of Agricultural Sciences.
- Dr. Jianchang Du (2007-2011). Current position: Professor, Jiangsu Academy of Agricultural Sciences.
- Dr. Zhixi Tian (2007-2011). Current position: “100 Talent Program” Professor, Institute of Genetics and Developmental Biology, Chinese Academy of Sciences.

#### H. Selected Publications (out of >70 papers, †equal contribution, \*correspondence)

- Liu, Y., Zhang, D., Ping, J., Li, S., Chen, Z., and Ma, J. 2016. Innovation of a regulatory mechanism modulating semi-determinate stem growth through artificial selection in soybean. *PLOS Genet.*, 12: e1005818.
- Sun, L.†, Miao, Z.†, Cai, C.† Zhang, D., Zhao, M., Wu, Y., Zhang, X., Swarm., S.A., Zhou, L., Zhang, Z.J., Nelson, R.L., and **Ma, J.\*** 2015. The calcineurin-like gene *GmHs1-1* controls hard seededness in soybean. *Nat. Genet.*, 47: 939-943.
- Zhao, M., Meyers, B.C., Cai, C., Xu, W., and **Ma, J.\*** 2015. Evolutionary patterns and co-evolutionary consequences of MIRNA Genes and MicroRNA targets triggered by multiple mechanisms of genomic duplications in soybean. *Plant Cell*, 27: 546-562.
- Wang, Z., Zhou, Z., Liu, Y., Shen, Y., Liu, T., Ji, Li, Q., Wu, M.\*, **Ma, J.\***, and Tian, Z.\* 2015. Functional evolution of phosphatidylethanolamine-binding proteins (PEBPs) in soybean and Arabidopsis. *Plant Cell* 26: 996-1008.
- Ping, J., Liu, Y., Sun, L., Zhao, M.‡ Lin, F., Sui, Y., She, M., Nelson, R.L., Clemente, T., Specht, J., and **Ma, J.\*** 2014. Dt2 is an APETALA1-like MADS-domain factor gene that controls semi-determinacy in soybean. *Plant Cell*, 26: 2831-2842.
- Li, Y.†, Zhou, G.†, **Ma, J.†**, Jiang, W., Jin, L., Zhang, Z., Guo, Y., Zhang, J., Sui, Y., ... (many authors), and Qiu, L.\* 2014. A pan-genome of wild soybean provides insights into evolution, diversity and domestication of soybean. *Nat. Biotech.*, 32:1045-1054.
- Chalhoub, B., Denoeud, F., Liu, S., Zhou, Y., Zhao, M., **Ma, J.**, (many others), and Wincker, P. 2014. Early allopolyploid evolution in the post-neolithic *Brassica napus* oilseed genome. *Science*, 345: 950-953.
- Zhao, M., Du, J., Lin, F., Tong, C., Yu, J., Huang, S. Wang, X. Liu, S., **Ma, J.\*** 2013. Shifts in evolutionary rate and intensity of purifying selection between two Brassica genomes revealed by analyses of orthologous retrotransposons and relics of a whole genome triplication. *Plant J.* 76: 211-222.
- Tian, Z., Zhao, M., She, M., Du, J., Cannon, S.B., Liu, X., Xu, X., Qi, X., Li, M.W., Lam, H.M., and **Ma, J.\*** 2012. Genome-wide characterization of nonreference transposons reveals evolutionary propensities of transposons in soybean. *Plant Cell.* 24: 4422-4436.
- Du, J., Tian, Z., Sui, Y., Zhao, M., Song, Q., Cannon, S.B., Cregan, P., and **Ma, J.\*** 2012. Pericentromeric effects shape the patterns of divergence, retention, and expression of duplicated genes in the palaeopolyploid soybean (*Glycine max* (L.)). *Plant Cell* 24: 21-32.
- Du, J., Tian, Z., Christian, H., Laten, H., Jackson, S., Cannon, S., Shoemaker, R.C., and **Ma, J.\*** 2010. Evolutionary conservation, diversity and specificity of LTR-retrotransposons in flowering plants: new insights from genome-wide analysis and multi-specific comparison.

*Plant J.* 63: 584-598.

- Tian, Z., Wang, X., Lee, R., Li, Y., Specht, J., Nelson, R., McClean, P.\*, Qiu, L.\*, and **Ma, J.\*** 2010. Artificial selection for determinate growth habit in soybean. *Proc. Natl. Acad. Sci. USA* 107: 8563-8568.
- The International Brachypodium Initiative. 2010. Genome sequencing and analysis of the model grass *Brachypodium distachyon*. *Nature* 463: 763-768
- Du, J., Tian, Z., Schmutz, J., Bowen, N.J., Shoemaker, R.C., and **Ma, J.\*** 2010. Bifurcation and enhancement of autonomous-nonautonomous retrotransposon partnership through LTR swapping in soybean. *Plant Cell.* 22: 48-61.
- Schmutz, J., Cannon, S.B., Schlueter, J., **Ma, J.** ... Du, J., Tian, Z., Zhu, L. ... (many others), Rokhsar, D., R.C. Shoemaker, R.C., Jackson, S.A.\* 2010. Genome sequence of the paleopolyploid soybean (*Glycine max* (L.) Merr.). *Nature* 463: 178-183.
- Tian, Z., Rizzon, C., Du, J., Liu, Z., Bennetzen, J.L., Gaut, B., Jackson, S.A., and **Ma, J.\*** 2009. Do genetic recombination and gene density shape the pattern of DNA elimination in rice LTR-retrotransposons? *Genome Res.* 19: 2221-2230.
- **Ma, J.**, Wing, R.A., Bennetzen, J.L., and Jackson, S.A.\* 2007. Evolutionary history and positional shift of a rice centromere. *Genetics*, 177: 1217-1220.
- **Ma, J.**, Wing, R.A., Bennetzen, J.L. and Jackson, S.A.\* 2007. Plant centromere organization: conserved functions within a dynamic structure. *Trends Genet.* 23: 134-139.
- **Ma, J.**, and Jackson, S.A.\* 2006. Retrotransposon accumulation and satellite amplification mediated by segmental duplication facilitate centromere expansion in rice. *Genome Res.* 16: 251-259.
- **Ma, J.**, and Bennetzen, J.L.\* 2006. Recombination, rearrangement, reshuffling and divergence in a centromeric region of rice. *Proc. Natl. Acad. Sci. USA* 103: 383-388.
- **Ma, J.**, SanMiguel, P.J., Lai, J., Messing, J., and Bennetzen, J.L.\* 2005. DNA rearrangements in the orthologous *Orp* regions of the maize, rice and sorghum genomes. *Genetics*, 170: 1209-1220.
- Emberton, J.<sup>†</sup>, **Ma, J.**<sup>†</sup>, Yuan, Y., and Bennetzen, J.L.\* 2005. Construction of HypoMethylated Partial Restriction (HMPR) library and its application in sequencing maize genes. *Genome Res.* 15: 1441-1446.
- **Ma, J.**, and Bennetzen, J.L.\* 2004. Recent rapid growth and divergence of the rice nucleotide genomes. *Proc. Natl. Acad. Sci. USA* 101: 12404-12410.
- **Ma, J.**, Devos, K.M., and Bennetzen, J.L. 2004. Analyses of LTR-retrotransposon structures reveal recent and rapid genomic DNA loss in rice. *Genome Res.* 14: 860-869.
- Bennetzen, J.L.\*, and **Ma, J.\*** 2003. The genetic colinearity of rice and other cereals based on genomic sequence analysis. *Curr. Opin. Plant Biol.*, 6: 128-133.