

CURRICULUM VITAE
ANDREA GALLAVOTTI

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EDUCATION

December 2003 Università degli Studi di Milano, Milan, Italy
Ph.D. in Genetics and Molecular Biology
March 2000 Università degli Studi di Milano, Milan, Italy
B.S. in Agricultural Sciences, graduated *Summa cum Laude*

PROFESSIONAL EXPERIENCE

2012-present Waksman Institute of Microbiology, Dept. of Plant Biology, Rutgers
University, NJ, USA
Assistant Professor (tenure-track started on July 1, 2012)
2009-2011 University of California, San Diego, CA, USA
Assistant Project Scientist
2007-2009 University of California, San Diego, CA, USA
Postdoctoral Fellow at the Section of Cell and Developmental Biology
2006-2007 Cold Spring Harbor Laboratory, Cold Spring Harbor, NY, USA
Cold Spring Harbor Laboratory Association Postdoctoral Fellow
2005-2006 University of California, San Diego, CA, USA
Post-doctoral Fellow at the Section of Cell and Developmental Biology
2003-2005 University of California, San Diego, CA, USA
Staff Research Assistant at the Section of Cell and Developmental
Biology
2002-2003 University of California, San Diego, CA, USA
Research scholar at the Section of Cell and Developmental Biology
2000-2003 Università degli Studi di Milano, Milan, Italy
Graduate student in Genetics and Molecular Biology
1998-2000 Università degli Studi di Milano, Milan, Italy
Practical thesis work at Department of Genetics and Microbiology.
1998-2000 Istituto Sperimentale per la Cerealicoltura, Sant'Angelo Lodigiano, Italy
Practical training on genetic quality improvement of wheat.

AWARDS AND FELLOWSHIPS

NSF Plant Genome Research Program. "Genomic and synthetic approaches linking auxin signaling to functional domains in maize" (IOS-1546873). Collaborative grant, co-Principal Investigator, \$1.05M to A.G. (out of \$3.6M total awarded). September 2016 to August 2021.

NSF IOS Developmental Mechanisms cluster. “Characterizing the role of transcriptional repression in maize development and domestication” (IOS-1456950). Principal Investigator, \$976,293 to A.G.. August 2015 to July 2020.

NSF Plant Genome Research Program. “Genetic and Genomic Approaches to Understanding the Role of Auxin in Shoot Development” (IOS-0820729/1114484). Collaborative grant, co-Principal Investigator, \$1,634,041 to A.G. (out of \$5.4M total awarded). October 2008 to June 2016.

Cold Spring Harbor Laboratory Association Fellowship, 2005.

Graduate Student Fellowship, 2001-2003, Ministero dell'Universita` e della Ricerca Scientifica e Tecnologica (MIURST), Italy.

PUBLICATIONS

PEER-REVIEWED ARTICLES

* corresponding author; **co-corresponding author; # co-first authorship.

1. Chatterjee, M., Liu, Q., Menello, C., Galli, M., **Gallavotti, A.*** “The combined action of duplicated boron transporters is required for maize development in boron deficient conditions”. *Genetics* 2017 (206), 2041-2051.
2. Bartlett, A., O'Malley, R., Huang, S.C., Galli, M., Nery, J., **Gallavotti, A.**, Ecker, J.R. “Mapping genome-wide transcription factor binding sites using DAP-seq”. *Nature Protocols* 2017 (12), 1659-1672.
3. O'Malley, R.C., Huang S.C., Song, L., Lewsey, M.G., Bartlett, A., Nery, J.R., Galli, M., **Gallavotti, A.**, Ecker, J.R. “Cistrome and epicistrome features shape the regulatory DNA landscape”. *Cell* 2016 (165), 1280-1292.
4. Galli, M. and **Gallavotti, A.*** “Expanding the regulatory network for meristem size in plants”. *Trends in Genetics* 2016 (32), 372-383 (review article).
5. Galli, M., Liu, Q., Moss, B., Malcomber, S., Li, W., Gaines, C., Federici, S., Roshkovan, J., Meeley, R., Nemhauser, J., **Gallavotti, A.*** “Auxin signaling modules regulate maize inflorescence architecture”. *Proc Natl Acad Sci USA* 2015 (112), 13372-13377.
6. **Gallavotti, A.** and Whipple, C. “Positional cloning in maize (*Zea mays* ssp. *mays*, Poaceae)”. *Application in Plant Sciences* 2015 (3), apps. 1400092 (method article).
7. Chatterjee, M., Tabi, Z., Galli, M., Malcomber, S., Buck, A., Muszynski, M., **Gallavotti, A.*** “The boron efflux transporter ROTTEN EAR is required for maize inflorescence development and fertility”. *The Plant Cell* 2014 (26), 2962-2977.
8. Durbak, A.R., Phillips, K.A., Pike, S., O'Neill, M., Mares, J., **Gallavotti, A.**, Malcomber, S., Gassmann, W., McSteen, P. “Transport of boron by the *tassel-less1* aquaporin is critical for vegetative and reproductive development in maize”. *The Plant Cell* 2014 (26), 2978-2995.
9. **Gallavotti, A.*** “The role of auxin in shaping shoot architecture”. *Journal of Experimental Botany* 2013 (64), 2593-2608 (review article).
10. **Gallavotti, A.***, Malcomber, S., Gaines, G., Stanfield, S., Whipple, C., Kellogg, E., Schmidt, R.J. “BARREN STALK FASTIGIATE1 is an AT-hook protein required for the formation of maize ears”. *The Plant Cell* 2011 (23), 1756-1771.
11. **Gallavotti, A.****, Long, J.A., Stanfield, S., Yang, X., Jackson, D., Vollbrecht, E., Schmidt, R.J. “The control of axillary meristem fate in the maize *ramosa* pathway”. *Development* 2010 (137), 2849-2856.

12. Lee, B., Johnston, R., Yang, Y., **Gallavotti, A.**, Kojima, M., Travencolo, B.A.N., da Costa, L., Sakakibara, H., Jackson, D. "Studies of *abphy1* phyllotaxy mutants of maize indicate complex interactions between auxin and cytokinin signaling in the shoot apical meristem". *Plant Physiology* 2009 (150), 205-216.
13. Skirpan, A., Culler, A.H., **Gallavotti, A.**, Jackson, D., Cohen, J.D., McSteen, P. "BARREN INFLORESCENCE2 interaction with ZmPIN1a suggests a role in auxin transport during maize inflorescence development". *Plant Cell Physiol* 2009 (50), 652-657.
14. **Gallavotti, A.**, Barazesh, S., Malcomber, S., Hall, D., Jackson, D., Schmidt, R.J., McSteen, P. "*sparse inflorescence1* encodes a monocot specific YUCCA-like flavin monooxygenase required for vegetative and reproductive development in maize". *Proc Natl Acad Sci USA* 2008 (105), 15196-15201.
15. **Gallavotti, A.**, Yang, Y., Schmidt, R.J., Jackson, D. "The relationship between auxin transport and maize branching". *Plant Physiology* 2008 (147), 1913-1923; Epub 2008 Jun 11.
16. **Gallavotti, A.** and Schmidt, R.J. "Two sides of the same coin". *Nature Genetics* 2007 (39), 1425-1426 (commentary).
17. Gupta, S., **Gallavotti, A.**, Stryker, G. A., Schmidt, R. J., Lal, S. K. "A novel class of *Helitron*-related transposable elements in maize contains portion of multiple pseudogenes". *Plant Mol. Biol.* 2005 (57), 115-127.
18. **Gallavotti, A.**, Zhao, Q., Kyojuka, J., Meeley, R. B., Ritter, M. K., Doebley, J. F., Pe` , M. E., Schmidt, R. J. "The role of *barren stalk1* in the architecture of maize". *Nature* 2004 (432), 630-635.
19. Sari-Gorla M., Ferrario S., Gatti E., **Gallavotti A.**, Mizzi L., Gianfranceschi L., Villa M., Pe` M. E. "The genetics of pollen development and function in cereals". *Maydica* 2002 (47), 193-202.
20. Fink R., Gatti E., Gianfranceschi L., **Gallavotti A.**, Isaac P. G., Sari-Gorla M., Pè M. E. "Localization and fine mapping of *gaMS-1*, a male gametophytic mutant of maize", *Sex. Plant Repr.* 2001 (14), 95-99.

PRESENTATIONS TO NATIONAL & INTERNATIONAL MEETINGS

1. **Gallavotti, A.**, Liu, X., Camehl, I., Galli, M. New insights into auxin-dependent transcriptional regulation by the maize REL2 transcriptional corepressor. FASEB Mechanisms in Plant Development, Saxtons River, VT, July 30-August 4, 2017.
2. **Gallavotti, A.**, Galli, M., Sidharth, S., O'Malley, R., Ecker, J., Joshi, T. The DNA binding landscape of maize ARFs. Auxin 2016: 5th International Conference for Auxin Research, Haitang Bay, Sanya, Hainan, China, October 20-25, 2016.
3. **Gallavotti, A.** Auxin signaling in maize inflorescences. Plant and Animal Genome XXIV Conference, San Diego, CA, January 9, 2016.
4. Galli, M., Gaines, C., Strable, J., Vollbrecht, E., Meeley, R., Schmidt, R., Malcomber, S., **Gallavotti, A.** Auxin signaling in the early steps of maize inflorescence development. Maize Genetics Conference Abstract 56:T3. Beijing, China, March 13-16, 2014.
5. **Gallavotti A.** The role of auxin signaling in maize inflorescence development. Mid-Atlantic Section American Society of Plant Biologists Spring Meeting. Delaware Biotechnology Institute, University of Delaware, April 6, 2013.
6. **Gallavotti A.** Unraveling the auxin signaling pathway in maize axillary meristem initiation. Auxin 2012: 4th International Conference for Auxin Research, Waikoloa, Hawai'i, HI, December 9-14, 2012.
7. **Gallavotti A.** The repression of indeterminate fate of axillary meristems in maize inflorescences. San Diego Center for Molecular Agriculture, Plant Biology Day, San Diego, CA, June 7, 2008.

8. **Gallavotti, A.**, Stanfield, S., Hall, D., Yang, X., Jackson, D., Vollbrecht, E. and Schmidt, R.J. The repression of indeterminate growth of primary axillary meristems in maize inflorescences by the *rel2* gene. Maize Genetic Conference Abstract 50:T15. Washington D.C., February 27-March 1, 2008.
9. **Gallavotti, A.**, Barazesh, S., Hall, D., Jackson, D., McSteen, P. and Schmidt, R.J. Auxin transport and biosynthesis are required for axillary meristem initiation in maize. Keystone Symposia, Plant Hormones and Signaling, Keystone Resort, Keystone, CO, February 10-15, 2008.
10. **Gallavotti A.**, Zhao Q., Kyojuka J., Meeley R., Ritter M., Doebley J. & Schmidt R.J. "*barren stalk1* and the control of lateral meristem initiation in maize". Maize Genetics Conference Abstracts 46:T6. Mexico City, Mexico, March 2004.

INVITED SEMINARS

1. **Gallavotti, A.** Auxin signaling in maize development: new insights from genetic and genomic approaches. University of Missouri Columbia, Columbia, MO, November 13, 2017
2. **Gallavotti, A.** The DNA binding landscape of maize AUXIN RESPONSE FACTORS. Maize Improvement Center, Chinese Academy of Agricultural Sciences, Beijing, China, October 27, 2016.
3. **Gallavotti, A.** Genetic and genomic approaches to understanding maize inflorescence architecture. Maize Improvement Center, China Agricultural University, Beijing, China, October 26, 2016.
4. **Gallavotti, A.** Genetic and genomic approaches to understanding maize inflorescence architecture. Institute of Plant Physiology and Ecology, Shanghai Institutes for Biological Sciences, Chinese Academy of Sciences, Shanghai, China, October 19, 2016.
5. **Gallavotti, A.** Molecular mechanisms of maize inflorescence architecture. Chinese Academy of Agricultural Sciences, Beijing, China, December 10, 2015.
6. **Gallavotti, A.** Molecular mechanisms of maize inflorescence architecture. University of Florida Genetics Institute, Gainesville, FL, November 3, 2015.
7. **Gallavotti, A.** Molecular mechanisms of maize architecture. Purdue University, West Lafayette, IN, February 4, 2015.
8. **Gallavotti, A.** Genetic, hormonal and nutritional control of maize inflorescence architecture. John Innes Centre, Norwich, UK, June 6, 2014.
9. **Gallavotti, A.** Genetic and hormonal control of post-embryonic meristem initiation in maize. Jiao Tong University, Shanghai, China, March 20, 2014.
10. **Gallavotti, A.** Genetic and hormonal control of post-embryonic meristem initiation in maize. Huazong Agricultural University, Wuhan, China, March 18, 2014.
11. **Gallavotti, A.** Genetic control of axillary meristem initiation in maize. University of Pennsylvania, Philadelphia, PA, May 17, 2012.
12. **Gallavotti, A.** The control of axillary meristem initiation and fate in maize inflorescences. California State University Long Beach, Long Beach, CA, November 12, 2009.
13. **Gallavotti, A.** The control of axillary meristem fate in the maize *ramosa* pathway. Sogang University, Seoul, South Korea, September 15, 2009.

ABSTRACTS AND PROCEEDINGS

1. Moss, B., Galli, M., **Gallavotti, A.** Synthetic approach reveals dynamic auxin signaling in Arabidopsis and maize. 28th International Conference on Arabidopsis Research, ICAR 2017 abstract #309. St. Louis, MO, June 19-23, 2017.

2. **Gallavotti, A.**, Liu, Q., Sidharth, S., Joshi, T., Lu, Z., Schmitz, R., Galli, M. The DNA binding landscape of maize auxin response factors. Maize Genetics Conference Abstract 59:P228. St. Louis, MO, March 9-12, 2017.
3. Liu, X., Camehl, I., Galli, M., **Gallavotti, A.** The transcriptional co-repressor REL2 regulates meristem initiation, determinacy and maintenance in maize inflorescences. Maize Genetics Conference Abstract 59:P240. St. Louis, MO, March 9-12, 2017.
4. Chen, Z., Li, W., Menello, C., Galli, M., **Gallavotti, A.** The function of *Barren inflorescence3* in meristem initiation and maintenance in maize inflorescences. Maize Genetics Conference Abstract 59:P231. St. Louis, MO, March 9-12, 2017.
5. Liu, Q., Federici, S., Galli, M., **Gallavotti, A.** Characterization and cloning of a temperature sensitive maize mutant affecting inflorescence development. Maize Genetics Conference Abstract 59:P181. St. Louis, MO, March 9-12, 2017.
6. Struttmann, J., Marshall, K., Coats, D., Withee, J., Malcomber, S., **Gallavotti, A.**, McSteen, P. Reverse genetic approaches to understanding the role of auxin in maize development. Maize Genetics Conference Abstract 59:P225. St. Louis, MO, March 9-12, 2017.
7. Sidharth, S., Galli, M., **Gallavotti, A.**, Joshi, T. Mining auxin response factor binding sites in maize using informatics approaches. Maize Genetics Conference Abstract 59:P46. St. Louis, MO, March 9-12, 2017.
8. Taylor-Teeples, M., Moss, B., **Gallavotti, A.**, Nemhauser, J. Making a spiral: the role of Aux/IAA degradation rate in developmental patterning. Auxin 2016: 5th International Conference for Auxin Research, Haitang Bay, Sanya, Hainan, China, October 20-25, 2016.
9. **Gallavotti, A.**, Camehl, I., Liu, X., Galli, M. The transcriptional co-repressor REL2 is required for maize vegetative and reproductive development. Maize Genetics Conference Abstract 58:P217. Jacksonville, FL, March 17-20, 2016.
10. Liu, Q., Federici, S., **Gallavotti, A.** The *bif173* gene controls maize inflorescence development. Maize Genetics Conference Abstract 58:P134. Jacksonville, FL, March 17-20, 2016.
11. Kiley, M., Joseph, S., Liu, Q., Robert Coats, D., Withee, J., Malcomber, S., **Gallavotti, A.**, McSteen, P. Auxin evo-devo: reverse genetic approaches to understanding the role of auxin in shoot development. Maize Genetics Conference Abstract 58:P157. Jacksonville, FL, March 17-20, 2016.
12. Camehl, I., Galli, M., **Gallavotti, A.** REL2 – an essential transcriptional corepressor for the development of maize inflorescences. From Molecules to the Field, Botanikertagung 2015. Ludwig-Maximilians-Universität & Technische Universität München, München, Germany, August 30-September 3, 2015.
13. **Gallavotti, A.**, Camehl, I., Galli, M. The transcriptional corepressor REL2 functions in multiple pathways during maize vegetative and reproductive development. FASEB Mechanisms in Plant Development, Saxtons River, VT, August 2-7, 2015.
14. Chatterjee, M. and **Gallavotti, A.** Characterization of the maize boron efflux transporter family. Maize Genetics Conference Abstract 57:P156. St. Charles, IL, March 12-15, 2015.
15. Li, W., Buck, A., Gaines, C., **Gallavotti, A.** *Barren inflorescence3*, a novel semi-dominant maize mutant defective in meristem initiation and maintenance. Maize Genetics Conference Abstract 56:P108. Beijing, China, March 13-16, 2014.
16. Camehl, I., Galli, M., **Gallavotti, A.** Transcriptional repression mediated by REL2 and REL2-LIKE co-repressors in the development of maize inflorescences. Mid-Atlantic Section American Society of Plant Biologists Spring Meeting. Delaware Biotechnology Institute, University of Delaware, April 6, 2013.
17. Galli, M., Chatterjee, M., Tabi, Z., Buck, A., Schmidt, R.J., Malcomber, S., Muszynski, M.; **Gallavotti, A.** Investigating the role of boron transport during maize inflorescence development. Mid-Atlantic Section American Society of Plant Biologists Spring Meeting. Delaware Biotechnology Institute, University of Delaware, April 6, 2013.

18. Li, W., Buck, A., Gaines, C., **Gallavotti, A.** 2013. Characterization and cloning of *Barren inflorescence3*, a novel semi-dominant maize mutant. Mid-Atlantic Section American Society of Plant Biologists Spring Meeting. Delaware Biotechnology Institute, University of Delaware, April 6, 2013.
19. Camehl, I., Galli, M., **Gallavotti, A.** 2013. Transcriptional repression mediated by REL2 and REL2-LIKE co-repressors in the development of maize inflorescences. 2013, Maize Genetics Conference Abstracts. 54:P224
20. Li, W., Buck, A., Gaines, C., **Gallavotti, A.** 2013. Characterization and cloning of *Barren inflorescence 3*, a novel semi-dominant maize mutant. 2013, Maize Genetics Conference Abstracts. 54:P171
21. Thayer, R., Bartlett, M., **Gallavotti, A.**, Whipple, C.J. 2013. Towards the positional cloning of *Few-branched 1*, a bract suppression mutant in maize. 2013, Maize Genetics Conference Abstracts. 54:P222
22. Federici, S., Buck, A., **Gallavotti, A.** 2013. Characterization of a novel *barren* mutant in maize. 2013, Maize Genetics Conference Abstracts. 54:P173
23. Chatterjee, M., Tabi, Z., Malcomber, S., Schmidt, R.J., Muszynski, M.; **Gallavotti, A.** Investigating the role of boron transport during maize inflorescence development. 2013, Maize Genetics Conference Abstracts. 54:P198.
24. **Gallavotti, A.**, Tabi, Z., Malcomber, S., Buck, A., McSteen, P., Schmidt, R.J., Muszynski, M. Deficient boron transport affects maize inflorescence development. LXXVII Cold Spring Harbor Symposium, The Biology of Plants. Cold Spring Harbor Laboratory, NY, May 30-June 4, 2012.