

Dr. Robert T. VanBuren

Assistant Professor
Department of Horticulture
Michigan State University

1066 Bogue St. Room A328
East Lansing, MI 48842

Phone: 518-669-7169
Email: bobvanburen@gmail.com

APPOINTMENTS

2016-present Assistant Professor, Michigan State University
2014-2016 NSF-PRFB Postdoctoral fellow, Donald Danforth Plant Science Center

EDUCATION:

2010-2014 Ph.D. University of Illinois at Urbana Champaign, Plant Biology
2007-2010 B.S. Rochester Institute of Technology, High Honors, Biotechnology

PEER-REVIEWED PUBLICATIONS:

1. **VanBuren R**, Bryant D, Bushakra JM, Vining KJ, Edger PP, Rowley ER, Priest HD, Michael TP, Lyons E, Filchkin SA, Dossett M, Finn CE, Bassil NV, Mockler TC. 2016 The genome of black raspberry (*Rubus occidentalis*). *The Plant Journal* 10.1111/tpj.13215.
2. Arro J, Park JW, Wai CM, **VanBuren R**, Pan YB, Nagai C, Silva JD, Ming R. 2016 Balancing selection contributed to domestication of autopolyploid sugarcane (*Saccharum officinarum* L.). *Euphytica* 209, 477-493.
3. Ming R*, **VanBuren R***, Wai CM*, Tang H* et al (59 coauthors). 2015 The pineapple genome and the evolution of CAM photosynthesis. *Nature Genetics*. DOI: 10.1038/ng.3435. *equal contribution
4. **VanBuren R**, Bryant D, Edger PP, Tang H, Burgess D, Challabathula D, Spittle K, Hall R, Gu J, Lyons E, Freeling M, Bartes D, Hallers BT, Hastie A, Michael TP, Mockler TC. 2015 Single-molecule sequencing of the desiccation tolerant grass *Oropetium thomaeum*. *Nature* 527, 508-511.
5. Zhang Q, Liu C, Liu Y **VanBuren R**, Yoa X, Zhong C, Huang H 2015 High density interspecific genetic maps of kiwifruit and the identification of sex specific markers. *DNA Research* dsv019.
6. Bushakra J, Bryant D, Dossett M, Vining K, **VanBuren R**, Gilmore B, Lee J, Mockler TC, Finn C, Bassil N. 2015 A genetic linkage map of black raspberry (*Rubus occidentalis*) and the mapping of Ag 4 conferring resistance to the aphid *Amphorophora agathonica*. *Theoretical and Applied Genetics* 128, 1631-1646.
7. Michael TP, **VanBuren R***. 2015 Progress, challenges and the future of crop genomics *Current opinion in plant biology* 24, 71-81. *Corresponding author

8. **VanBuren R**, Zeng F, Chen C, Zhang J, Wai CM, Han J, Aryal R, Gschwend AR, Wang J, Na JK, Huang L, Zhang L, Miao W, Gou J, Arro J, Guyot R, Moore RC, Wang M, Zee F, Charlesworth D, Moore PH, Yu Q, Ming R. 2015 Domestication of Yh chromosome in papaya. *Genome Research* 25, 524-533.
9. Deneud F ... **VanBuren R** (48 out of 62 alphabetical authors) et al. 2014 The coffee genome provides insight into the convergent evolution of caffeine biosynthesis. *Science* 345, 1181-1184.
10. Zhang Q, Li L, **VanBuren R**, Liu Y, Yang M, Han Y, Ming R. 2014 Optimizing linkage mapping strategy using genome sequence based markers and construction of high-density sacred Lotus genetic maps. *BMC Genomics* 15, 372.
11. Lum G, **VanBuren R**, Ming R, Min XJ. 2013 Secretome Prediction and Analysis in Sacred Lotus (*Nelumbo nucifera* Gaertn.) *Tropical Plant Biology* 6, 131-137.
12. **VanBuren R**, Walters B, Jia Min X, Ming R. 2013 Analysis of expressed sequence tags and alternative splicing genes in sacred lotus (*Nelumbo nucifera* Gaertn.) *Plant Omics*. 6, 311.
13. Ming, R*, **VanBuren R***, Liu Y, Yang M, et al. (84 coauthors) 2013 The genome of the long-living sacred lotus (*Nelumbo nucifera* Gaertn.) *Genome Biology* 14, R41. * equal contribution
14. **VanBuren R**, Ming R. 2013 Chloroplast DNA accumulation in the recently evolved Y chromosome of *Carica papaya*. *Molecular Genetics and Genomics* 288, 277-284.
15. **VanBuren R**, Ming R. 2013 Dynamic transposable element accumulation in the nascent sex chromosomes of papaya. *Mobile Genetic Elements* 3,1-5.
16. Yang M, Han Y, **VanBuren R**, Ming R, Xu L, Han Y, Liu Y. 2012 Genetic linkage maps for Asian and American lotus constructed using novel SSP markers derived from the genome of sequenced cultivar. *BMC genomics* 13:653.
17. Wang J, Na J, Yu Q, Gschwend A, Han J, Zeng F, Aryal, **VanBuren R**, et al. 2012 Dynamic rearrangements, genetic degeneration, and gene trafficking in the papaya nascent Yh chromosome. *PNAS* 109,13710-13715.
18. Gschwend A, Yu Q, Zeng F, Han J, **VanBuren R** Charlesworth D, Moore P, Paterson A, Ming R. 2012 Rapid divergence and expansion of the X chromosome in papaya. *PNAS* 109, 13716-13721.
19. **VanBuren R**, Li J, Zee F, Zhu J, Liu C, Arumaganathan A, Ming R. 2011 Longli is not a hybrid of longan and lychee as revealed by genome size analysis and trichome morphology. *Tropical Plant Biology*. 4,228-236.
20. Hudson AO, Ahmad N, **VanBuren R**, Savka MA. 2010 Sugarcane and Grapevine Endophytic Bacteria: Isolation, Detection of quorum Sensing signals and Identification by 16S v3 rDNA Sequence analysis. *Current Research Technology and Education Topics in Applied Microbiology and Microbial Biotechnology* 13,801-806.

BOOK CHAPTERS:

1. **VanBuren R** and Mockler TC 2015 The Brachypodium distachyon reference genome. *In Genetics and Genomics of Brachypodium*. Springer
2. **VanBuren R** and Ming R 2014 Sequencing and assembly of the transgenic papaya genome. *In Genetics and Genomics of Papaya*. Springer
3. **VanBuren R** and Ming R 2014 Genomics of papaya sex chromosomes. *In Genetics and Genomics of Papaya*. Springer

FELLOWSHIPS/AWARDS:

NSF-PRFB Postdoctoral Fellowship award (\$216,000; 2014-2017)
 Harley J. Van Cleave Research Award (\$1,000)
 Francis M. and Harlie M. Clark Research Support Grant (\$1,000)
 Govindjee and Rajni Govindjee Awards for Excellence in Biological Science (\$1,000)
 University of Illinois Fellowship (\$9,000; 2010-2011)

EXTERNAL SERVICE:

2014-present Associate editor of PeerJ

Ad hoc reviewer BMC genomics, Molecular Genetics and Genomics, Molecular Plant, Nature Communications, Nature Genetics, Planta, PLoS One, Tropical Plant Biology, PeerJ

TEACHING EXPERIENCE:

2012 Introduction to Plant Biology laboratory (sophomore level) 40 student enrollment (TA)
 2012 Genetics laboratory (sophomore level) 40 student enrollment (TA)
 2011 Introduction to Plant Biology laboratory (sophomore level) 40 student enrollment (TA)
 2011 Genetics laboratory (sophomore level) 40 student enrollment (TA)

INVITED SEMINARS or SYMPOSIUM TALKS:

1. **VanBuren R**, Bryant D, Gu J, MichaelTP, Bartels D, Mockler TC. 2015 “Single-molecule sequencing of the desiccation tolerant grass *Oropetium thomaeum*.” Annual Faculty retreat Donald Danforth Plant Science Center, St. Louis MO.
2. **VanBuren R**, Bryant D, Gu J, MichaelTP, Bartels D, Mockler TC. 2015 “De Novo Assembly of a Complex Grass Genome using Ultra-Long PacBio Reads With P6C4 Chemistry” *Plant and Animal Genome conference, San Diego CA*.
3. **VanBuren R**. 2014 “Domestication of the Y chromosome in papaya” *Inner Mongolia University, Hohhot, China*.
4. **VanBuren R**, Allen DK, Mockler TC. 2014 “Characterizing the physiological and genomic signatures of drought induced CAM photosynthesis evolution” NSF Plant Genome annual meeting, Washington DC.
5. **VanBuren R**, Ming R. 2014 “Evolution of two Y chromosomes in Papaya” Plant and Animal Genome conference, San Diego CA.
6. Ming R, **VanBuren R**. 2013 “The pineapple genome” CAM + C4 Plant Biology, Urbana IL.

7. **VanBuren R**, Ming R. 2013 “Sequencing and analysis of dioecious papaya sex chromosomes” SMBE, Chicago IL.
8. **VanBuren R**, Carter D. 2009 “Stewart’s Wilt Disease Progression in Bioengineered Corn” Rochester Academy of Science, Roberts Wesleyan NY.