



Christopher Charles Gottschalk

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Education

2015 – 2020	Michigan State University, East Lansing, MI 48824 Plant Breeding, Genetics and Biotechnology – Horticulture PhD Candidate; estimated completion May 2020
2008 – 2013	Michigan State University, East Lansing, MI 48824 Bachelor of Science – Plant Biology

Funded Proposals – Total \$98,613

2019	“Phenomic Applications in Plant Breeding” - 2019 MSU Plant Breeding, Genetics and Biotechnology/NRT/Corteva Symposium Corteva - Co-Organizers: Chris Gottschalk and Natalie Kaiser - \$6,000
2018 - 2020	“Identification of Superior Apple Cultivars for Novel Applications in Michigan”. Michigan State Horticulture Society and Michigan Department of Agriculture and Rural Development, Co-PI: Steve van Nocker and Chris Gottschalk - \$82,813
2016 - 2017	“Great Lakes Cider Apple Collection and MSU Cider Apple Trait Database”. Michigan State Horticulture Society, PI: Steve van Nocker - \$9,800

Submitted Proposals

2019	“Functional characterization of Apple’s (<i>Malus x domestica</i>) flowering genes and identification of genomic regions contributing to biennial bearing”. USDA AFRI NIFA Fellowships Grant Program: Predoctoral Fellowships Development PI: Chris Gottschalk - \$106,405
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Awards – Academic – Total \$40,975

2019	Jason and Dana Lilly PBGB Fund for Graduate Student Enhancement- \$1250
2019	Horticulture Organization of Graduate Students Travel Award - \$300
2017	John M. Bukovac Outstanding Graduate Student Award - \$2000
2017	Jordan B. Tatter Scholarship - \$2500
2017	John L. Arend Excellence in Graduate Student Research Scholarship - \$1500
2016-2017	Plant Science Fellowship \$30,000
2017	College of Graduate Students Professional Development Award - \$500
2017	Horticulture Organization of Graduate Students Travel Award - \$150
2017	Plant Science Graduate Students Research Symposium Poster Award – Basic Science - \$75
2016	1 st International Apple Symposium – ISHS Science Poster Award - \$200
2016	Michigan State Horticulture Society Fruit & Vegetable Industry Scholarship - \$1500
2016	Horticulture Graduate Office Fellowship - \$1000

Awards - Professional

2018	Silver Medal Great Lakes International Cider and Perry Competition
2018	Bronze Medal Great Lakes International Cider and Perry Competition
2017	Silver Medal Great Lakes International Cider and Perry Competition
2017	Bronze Medal Great Lakes International Cider and Perry Competition
2017	Michigan State University Student Art Competition - \$500
2016	Gold Medal Great Lakes International Cider and Perry Competition
2014	Bronze Medal Great Lakes International Cider and Perry Competition

Teaching Experience

2019	HRT430: Vines to Wines - 1 Section Teaching Assistant; Managed attendance, grades, lab materials, and guest lectured
2017 – 2019	HRT891/860: Scientific Writing - 12 Sections Teaching Assistant; Guest lecturer, conducted reviews and editing, and led classroom discussion
2017	PLB802: Pathways to Scientific Teaching in Biology - Enrolled Course on developing skills to conduct an active learning classroom for undergraduate STEM courses. Resulted in a publication see Abeli et al. below.
2016	HRT332: Tree Fruit Production and Management - 1 Section Volunteer Teaching Assistant; Assisted in laboratory portion and guest lectured

Undergraduate Mentorship

2019	Sarah Kerr
2018-2019	Cassie Castillo
2018-2019	Lauren Larson

Professional Service/Products

2019	Reviewer for Nature Horticulture Research
2019	Co-Organizer for the MSU Plant Breeding, Genetics and Biotechnology/NRT/Corteva Symposium
2018	Reviewer for J. Amer. Soc. Hort. Sci.
2018	Graduate Student Representative for Fall 2018 HRT/PRI Faculty Search Committee
2018 - present	Co-Graduate Student Representative to the PGBG Graduate Program Committee
2018 – 2019	Graduate Student Judge at the University Undergraduate Research and Arts Forum
2016 – 2018	Graduate Student Representative to Horticulture Graduate Program Committee
2017 – Present	Administrator for www.ciderapples.msu.edu
2016 – Present	Volunteer Graduate Coordinator for the Plant Science Fellowship Recruitment
2016	Co-Evaluation Chair for the Plant Science Graduate Student Research Symposium
2016	Graduate Student Host for the Plant Breeding, Genetics and Biotechnology Symposium
2015 – Present	Member of the Horticulture Organization of Graduate Students
2015 – 2016	Co-Fundraising Chair for Horticulture Organization of Graduate Students

Press

2019	Kloosterman, Stephen. “Testing cider cultivars.” Fruit Grower News, Sparta, MI. October, 2019.
2017	Mertz, Leslie. “New research aims to learn more about hard cider apples.” Good Fruit Grower 68(3): 38-40.
2017	Mertz, Leslie. “Rosé Cider.” Good Fruit Grower 68(3): 41-43.

Presentations - Oral

2020	Gottschalk, Chris. Red-Juice apple cultivars for hard cider production. Empire State Producers Expo, Syracuse, NY – Invited
2020	Gottschalk, Chris. Cider Varieties and Red Flesh Breeding Program. GLEXPO, Grand Rapids, MI. – Invited
2019	Gottschalk, Chris. Great Lakes Cider Apple Collection. Clarksville Research Center Field Day, Clarksville, MI.
2019	Gottschalk, Chris. Characterization of early floral development in extremely early- and late-blooming <i>Malus</i> species and cultivars. 6 th Annual Horticulture Research Conference, Venice, IT.
2019	Gottschalk, Chris. Hard Cider. HRT430 - Vines to Wines, East Lansing, MI.
2019	Gottschalk, Chris. Red-juice apples and their use in rosé ciders. CiderCon, Chicago, IL.
2018	Gottschalk, Chris. Optimization of gibberellin and cytokinin-based programs for control of alternate bearing in 'Honeycrisp'. Michigan Apple Commission, GLEXPO, Grand Rapids, MI.
2017	Gottschalk, Chris. A molecular framework for the repressive effect of fruit on floral initiation in apple. 4th International Horticulture Research Conference, East Malling, UK.
2017	Gottschalk, Chris. Great Lakes Cider Apple Collection. CiderCon, Chicago, IL.

- 2016 **Gottschalk, Chris**. Hard Cider. MSU Undergraduate Enology Club, East Lansing, MI.
- 2016 **Gottschalk, Chris** and Steve van Nocker. Great Lakes Cider Apple Collection. Michigan Tree Fruit Commission Winter Meeting, Trevor Nichols Research Center, Fennville, MI.
- 2016 **Gottschalk, Chris**. Construction of the Great Lakes Cider Apple Collection. Fruit Workers Meeting, Collingwood, ON, CA.
- 2016 **Gottschalk, Chris**. A molecular framework for the repressive effect of fruit on floral initiation in apple. 1st International Apple Symposium ISHS, Yanglin, Shaaxi, China.
- 2016 **Gottschalk, Chris**. Research being conducted by the van Nocker Lab at the Clarksville Research Center. Clarksville Research Center Field Day, Clarksville, MI.
- 2015 **Gottschalk, Chris**. Breeding of red-fleshed apples for the Michigan apple industry. HRT332 - Tree fruit production and management, East Lansing, MI.

Presentations - Poster

- 2019 **Chris Gottschalk**, Charity Goeckeritz, Courtney Hollender, and Steve van Nocker. Characterization of early floral development in extremely early- and late-blooming *Malus* species and cultivars. 6th Annual Horticulture Research Conference, Venice, IT.
- 2019 **Gottschalk, Chris**, Phil Schwallier, and Steve van Nocker. Identification of superior apple cultivars for cider production in Michigan. CiderCon, Chicago, IL.
- 2019 van Nocker, Steve and **Chris Gottschalk**. Michigan PureRed - red-juiced apple cultivars for hard cider production. CiderCon, Chicago, IL.
- 2018 **Gottschalk, Chris**, Phil Schwallier, John Bukovac, and Steve van Nocker. Control of crop load and alternate bearing in 'Honeycrisp' apple through regulation of flowering. GLEXPO, Grand Rapids, MI.
- 2018 **Gottschalk, Chris**, Phil Schwallier, and Steve van Nocker. Identification of superior apple cultivars for cider production in Michigan. GLEXPO, Grand Rapids, MI.
- 2018 **Gottschalk, Chris**, Phil Schwallier, John Bukovac, and Steve van Nocker. Optimization of gibberellin and cytokinin-based programs for control of alternate bearing in 'Honeycrisp'. GLEXPO, Grand Rapids, MI.
- 2018 van Nocker, Steve and **Chris Gottschalk**. Michigan PureRed - red-juiced apple cultivars for hard cider production. GLEXPO, Grand Rapids, MI.
- 2018 **Gottschalk, Chris**, and Steve van Nocker. Great Lakes Cider Apple Collection. Plant Science Graduate Student Research Symposium, East Lansing, MI.
- 2017 **Gottschalk, Chris** and Steve van Nocker. Control of alternate bearing in apple by manipulating floral initiation. GLEXPO, Grand Rapids, MI.
- 2017 **Gottschalk, Chris**, Nikki Rothwell, Phil Schwallier, Amy Irish-Brown, and Steve van Nocker. Great Lakes Cider Apple Collection. GLEXPO, Grand Rapids, MI.
- 2017 **Gottschalk, Chris**, Nikki Rothwell, Phil Schwallier, Amy Irish-Brown, and Steve van Nocker. Great Lakes Cider Apple Collection. 4th International Horticulture Research Conference, East Malling, UK.
- 2017 **Gottschalk, Chris** and Steve van Nocker. A molecular framework for the repressive effect of fruit on floral initiation in apple. Plant Science Graduate Student Research Symposium, East Lansing, MI.
- 2017 **Gottschalk, Chris**, Nikki Rothwell, Phil Schwallier, Amy Irish-Brown, and Steve van Nocker. Great Lakes Cider Apple Collection. CiderCon, Chicago, IL.
- 2016 **Gottschalk, Chris** and Steve van Nocker. A molecular framework for the repressive effect of fruit on floral initiation in apple. PBGB Symposium, East Lansing, MI.
- 2016 **Gottschalk, Chris**, Nikki Rothwell, Phil Schwallier, Amy Irish-Brown, and Steve van Nocker. Great Lakes Cider Apple Collection. GLEXPO, Grand Rapids, MI.
- 2016 **Gottschalk, Chris** and Steve van Nocker. Control of alternate bearing in apple by manipulating floral initiation. GLEXPO, Grand Rapids, MI.
- 2016 **Gottschalk, Chris**, Nikki Rothwell, Phil Schwallier, Amy Irish-Brown, and Steve van Nocker. Great Lakes Cider Apple Collection. Fruit Workers Meeting, Collingwood, ON, Canada.
- 2016 **Gottschalk, Chris** and Steve van Nocker. A molecular framework for the repressive effect of fruit on floral initiation in apple. 1st International Apple Symposium ISHS, Yangling, Shaanxi, China.
- 2016 **Gottschalk, Chris** and Steve van Nocker. Transcriptional Landscape of the apple shoot apex. American Society of Horticulture Science Conference, Atlanta, GA.

- 2016 **Gottschalk, Chris** and Steve van Nocker. A molecular framework for the repressive effect of fruit on floral initiation in apple. Plant Science Graduate Student Research Symposium, East Lansing, MI.

Publications (* - equal contributions)

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- Gottschalk, Chris**, Yinpeng Xie, Miguel Flores, Sean Rogers, Qingmei Guan, and Steve van Nocker. Gene expression atlas of development in a wild apple species. (*in prep*)
- Gottschalk, Chris**, Songwen Zhang, Phil Schwallier, M. John Bukovac and Steve van Nocker. Efficacy of plant growth regulator application in controlling floral initiation and fruit quality in 'Honeycrisp'. (*in prep*)
- Gottschalk, Chris**, Songwen Zhang, Phil Schwallier, Sean Rogers, M. John Bukovac and Steve van Nocker. Genetic mechanisms associated with the repressive effect of fruit on floral initiation in apple (*Malus x domestica* Borkh). (*in prep*)
- Gottschalk, Chris**, Charity Goeckeritz, Courtney Hollender, and Steve van Nocker. Morphological and molecular bases of diversity in spring bloom time in apple (*Malus*). (*in prep*)
- Abeli, Patrick*, Shelby Dechow*, **Chris Gottschalk***, John Williams*. Peppered Moths and the Mutation Mechanisms of Transposons. In: Pathways to Scientific Teaching (2nd Edition) (Eds) Diane Ebert-May and Emily Holt. Macmillan Publishing, London, UK. (*Accepted - in review*)
- Miles, Carol, Travis Alexander, Suzette Galinato, Nikki Rothwell, Greg Peck, **Chris Gottschalk**, and Steve van Nocker. Growing apples for hard cider production in the U.S. - Trends and research opportunities. HortTechnology (*Accepted – in review*)
- 2019 Peace, Cameron, Luca Bianco, Michela Troggio, Eric van de Weg, Nicholas Howard, Amandine Cornille, Charles Eric Durel, Sean Myles, Zoë Migicovsky, Robert Schaffer, Evelyne Costes, Gennaro Fazio, Hisayo Yamane, Steve van Nocker, **Chris Gottschalk**, Fabrizio Costa, David Chagné, Xingzhong Zhang, Andrea Patocchi, Susan Gardiner, Craig Hardner, Satish Kumar, Francois Laurens, Etienne Bucher, Dorrie Main, Sook Jung, and Stijn Vanderzande. Apple whole genome sequences: recent advances and new prospects. Horticulture Research 6:59.
- 2019 Zhang, Songwen, **Chris Gottschalk**, and Steve van Nocker. Genetic mechanisms in the repression of flowering by gibberellins in apple (*Malus x domestica* Borkh.). BMC Genomics 20:747.
- 2018 van Nocker, Steve and **Chris Gottschalk**. Red-juiced apples cultivars for Great Lakes production Fruit Quarterly - New York State Horticultural Society. Winter 2018.
- 2017 **Gottschalk, Chris**, Nikki Rothwell and Steve van Nocker. Apple Varieties for production of Hard Cider in Michigan. Michigan State University Extension. E3364.
- 2013 **Gottschalk, Chris** and Steve van Nocker. Diversity in Seasonal Bloom Time and Floral Development among Apple Species and Hybrids. J. Amer. Soc. Hort. Sci. September 2013 138:367-374.