Professor

Agribusiness Department

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# EMPLOYMENT

Professor: California Polytechnic State University: San Luis Obispo, CA (2019-)

Associate Professor: California Polytechnic State University: San Luis Obispo, CA (2014-2019)

Assistant Professor: California Polytechnic State University: San Luis Obispo, CA (2008-2014)

Post-Doctoral Research Associate: Washington State University, Pullman, WA (2008)

Graduate Teaching Assistant: Washington State University, Pullman, WA (2003-2008)

Assistant to state econometricians, Department of Financial Management: Boise, ID (2002-2003)

# ADJUNCT and VISITING POSITIONS

Senior Economist. ERA Economics, LLC. Davis, CA (2020-)

Visiting Associate Professor. School of Economic Sciences, Washington State University, Pullman, WA (Spring 2017)

Economic Consultant to Ahern Seed, San Diego, CA (2013-2016)

Economic Consultant to Future Fruit Inc., Visalia, CA (2010)

Statistical Consultant to Millennium Science Engineering: Boise, ID (2005)

# EDUCATION

Ph.D., Spring 2008, Economics, Washington State University

M.S., Fall 2007, Statistics, Washington State University

B.S., Spring 2003, Economics, Applied Mathematics, Boise State University

**PROFESSIONAL AFFILIATIONS AND LEADERSHIP**

Agricultural & Applied Economics Association (AAEA)

Brewing and Enology Economic Research Section, Founder & Chair (2015-2017,2021-)

Australasian Section, Chair (2017-2019)

Nominating Committee (2017-2019)

Australasian Agricultural & Resource Economics Society – North American Branch

President (2018-2019)

President-Elect/Secretary/Treasurer (2016-2018)

Beeronomics Society

Chief Executive Officer (2019-)

Vice President (2015-2018)

Brewers Association (BA)

Western Agricultural Economics Association (WAEA)

# PUBLICATIONS

1. “Water, environment, and socioeconomic justice in California: A multi-benefit cropland repurposing framework” Angel Santiago Fernandez-Bou, Jos. M. Rodr.guez-Flores, A. Guzman, J.P. Ortiz-Partida, Leticia M. Classen-Rodriguez, P.A. S.nchez-P.rez, Jorge Valero-Fandi.o, Chantelise Pells, Humberto Flores-Landeros, Samuel Sandoval-Sol.s, Gregory W. Characklis, Thomas C. Harmon, Michael McCullough, J. Medell.n-Azuara. 2022. *Science of the Total Environment*. Forthcoming.
2. “Beer Excise Taxes and the Craft Beverage and Modernization Tax Reform Act" Gary W. Brester, Michael McCullough, Joseph Atwood, and Caroline Graham Austin. 2022. Journal of Agricultural and Resource Economics. Forthcoming.
3. “California’s Wage Rate Policies and Head Lettuce Prices” Lynn Hamilton, Michael P. McCullough, Gary Brester, and Joseph Atwood. 2020. *Journal of Food Distribution Research*. 51:2, 92-110
4. “Learning by Brewing: Homebrewing Legalization and the Craft Brewing Industry” Michael P. McCullough, Joshua Berning, Jason L. Hanson. 2018. *Contemporary Economic Policy*. 37, 25-39.
5. “Can Beer Consumption be Part of a Healthy Diet?” Michael P. McCullough and Richard Volpe. 2017 August. *Choices*.
6. “Can the Craft Beer Industry Tap into Collective Reputation?” Joshua Berning, Marco Costanigro, and Michael P. McCullough. 2017 August. *Choices*.
7. “The US Brewing Industry from Farm to Pint” Joshua Berning and Michael P. McCullough. 2017 August. *Choices*.
8. “Product Line Extension Among New England Craft Breweries” Joshua Berning and Michael P. McCullough. 2017. *Agricultural and Resource Economics Review.* 46(1), 73-86.
9. “An Exploratory Assessment of the Trucking Industry for Transporting California Produce” Sean P. Hurley, Michael P. McCullough, and Jay E. Noel. 2016. *Western Economic Forum*. 15(1).
10. “Beer Purchasing Behavior, Dietary Quality, and Health Outcomes among U.S. Adults” Richard Volpe, Michael P. McCullough, Michael Adjemian, and Timothy Park. 2016. *Journal of Wine Economics*. 11(3).
11. “New West, Brew West: Home Brewing an Industry in the West” Jason L. Hanson, Michael McCullough, and Joshua Berning. 2016. *Journal of the American West*. 55(2), 49-59.
12. “The Cost of Going Green: Early Adoption Breeds Efficient Technology” Michael McCullough, Kyle Manchester, and Gour S. Choudhury. 2016. *Journal of Food Processing & Beverages*. 4(1).
13. “Reconstructing Nonlinear Structure in Regression Residuals” Michael P. McCullough, Thomas L. Marsh, and Ron C. Mittelhammer. 2014. *Journal of Applied Statistics.* 41(2), 332-350.
14. “Advertising Soft Drinks to Children: Are Voluntary Restrictions Effective?”Joshua Berning and Michael McCullough. 2013, *Agribusiness.* 29(4), 469-485.
15. “Reconstructing Market Reactions to Consumption Harms” Michael P. McCullough, Thomas L. Marsh, and Ray Huffaker. 2013. *Applied Economics Letters.* 20(2), 173-179.
16. “Biodynamic Practices, Eco-Label Wines and Millennial Consumers” Michael McCullough, Eivis Qenani, and Neal MacDougall. 2012. *Journal of Agricultural Science and Technology A*. 2(12), 1364-1372.
17. “Intertemporal Alcohol Dependency: Like Father, Unlike Son” Michael P. McCullough,

Thomas L. Marsh, and Trenton G. Smith. 2012. *Enometrica*. 15(1), 57.

1. “Endogenously Determined Cycles: Empirical Evidence From Livestock Industries”Michael P. McCullough, Thomas L. Marsh, and Ray Huffaker. 2012. *Nonlinear Dynamics, Psychology, and Life Sciences.* 16(2), *205-231.*
2. “Economic and Environmental Impacts of Washington State Biofuel Policy Alternatives” Michael P. McCullough, David Holland, Kathleen Painter, Leroy Stodick, and Jonathan Yoder. 2011. Journal of Agricultural and Resource Economics. 36(3), 615-629.

**COMMENTS**

1. Berning, J. and M.P. McCullough. 2017. Choices Theme Overview. “Beer, Policy, and a Changing Global Market.”
2. Berning, J. and M.P. McCullough. 2017. Choices Theme Overview. “Global Craft Beer Renaissance.”

**REPORTS**

1. “Assessing the Cost and Fuel Consumption of Off-Road Agricultural Equipment,” 2022. Michael McCullough, Lynn Hamilton, and Cory Walters
2. “The Economic Impact on the Local Economy of Irrigated Agriculture in the Paso Robles Area and Potential Impacts of the Sustainable Groundwater Management Act,” 2020. Lynn Hamilton and Michael McCullough
3. “Assessing the Economic Impacts of Agricultural Equipment Emission Reduction Strategies on the Agricultural Economy in the San Joaquin Valley: Phase Two, 2018 Costs,” California Air Resources Board. 2020. CARB Project NO. 17MSC004
4. “A Decade of Change: A Case Study of Regulatory Compliance Costs in the Produce Industry,” 2018. Lynn Hamilton and Michael McCullough
5. “A Framework for Assessing the Economic Impacts of Agricultural Equipment Emission Reduction Strategies on the Agricultural Economy in the San Joaquin Valley,” California Air Resources Board. 2018. CARB Project NO. 13-331
6. “Scalable Solutions to Reduce Water Use and Salinity in California Winery and Food Processing Cleaning Operations,” Wine Institute. 2013. CDFA Project NO. SCB10024
7. “The Impacts of Changes in the Agricultural Transportation Sector on the Competitiveness of the California Specialty Crop Industry;” Jay Noel, Mechel Paggi, Sean Hurley, Fumiko Yamazucki, and Michael McCullough. 2012. CDFA Project NO. SCB09021
8. “Biofuel economics and policy for Washington State” Yoder, J., C.R. Shumway, P. Wandschneider, D. Young, H. Chouinard, A. EspinolaArredondo, S. Galinato, C. Frear, D. Holland, E. Jessup, J. LaFrance, K. Lyons, M. McCullough, K. Painter and L. Stodick. 2010. Washington State Univ. Agr. Res. Center Res. Bul. XB1047E

# GRANTS (Collaborator on $3,205,693 managing PI on $1,842,989)

1. *California Off-Road Equipment Useful Life Assessment*; 2022. Awarded, $35,563 Principal investigator. Granting Agency: California Air Resources Board
2. *Clean Biomass Collaborative*; 2021. Awarded, $299,189 Principal investigator. Granting Agency: California Air Resources Board
3. *Establishment of a Fermented Beverages Laboratory for Enhancing Education and Research in Fermentation Science*; 2021. Awarded, $130,859 Project Evaluator. Granting Agency: USDA NIFA.
4. *Assessing the Cost and Fuel Consumption of Off-Road Agricultural Equipment*; 2020. Awarded, $200,000 Principal investigator. Granting Agency: California Air Resources Board
5. *California Agricultural Equipment Survey*; 2018. Awarded, $30,000 Principal investigator. Granting Agency: California Air Resources Board
6. *The Future of San Joaquin Valley Agriculture Under Climate Change and SGMA*; 2018. Awarded $541,362 Principal investigator. Granting Agency: California Strategic Growth Council
7. *Assessing the Economic Impacts of Agricultural Equipment Emission Reduction Strategies on the Agricultural Economy in the San Joaquin Valley: Phase Two, 2017 Costs*; 2018. Awarded $250,000 Principal investigator. Granting Agency: California Air Resources Board
8. *Cal Poly FDRS Marketing Challenge Grant*; 2015. Awarded $1,000 Principal investigator. Granting Agency: CHS Foundation.
9. *Accelerating Adoption of Innovative Conservation and Sustainable Best Management Practices*; 2014. Awarded $368,167 Collaborator and Lead Economist. California Department of Food and Agriculture; Specialty Crop Block Grant Program.
10. *Economic Impacts of Off-Road Agricultural Equipment Emissions Reduction Strategies on the Agricultural Sector in the San Joaquin Valley*; 2014. Awarded $450,000 Principal investigator. Granting Agency: California Air Resources Board
11. *Scalable Solutions to Reduce Water Use and Salinity in California Winery and Food Processing Cleaning Operations*; 2011. Awarded $449,553 Collaborator. Granting Agencies: California Department of Food and Agriculture; Specialty Crop Block Grant Program
12. *The Impacts of Changes in Agricultural Transportation Sector on the Competitiveness of the California Specialty Crop Industry;* 2010. Awarded $450,000 Collaborator. Granting Agencies: CSU Agricultural Research Initiative; California Department of Food and Agriculture; Federal-State Marketing Improvement Program

# PRESENTATIONS

1. *The California Clean Biomass Collaborative Update*; Michael P. McCullough
   * Presented at the 2022 Cal Poly Climate Solutions Now Conference
   * Presented at the 2022 California Bioresources Alliance Symposium
2. *Economic Impact of SGMA on San Joaquin Valley Dairies, Cattle, and Dairy Processing*; Michael P. McCullough and Duncan MacEwan
   * Panel discussant at 2022 California Dairy Sustainability Summit
   * Invited speaker at California Chapter of ARPAS 2022 Continuing Education Conference
3. *The Changing Face of U.S. Tequila Imports;* Michael P. McCullough, Jeremy Jelliffe, Steven Zahniser, and Gregory Astill
   * Presented at the 2022 Annual Meeting of the Agricultural & Applied Economics Association
4. *The California Beer Market: Lessons in Size and Scope from the Golden State;* Matthew T. Cole and Michael P. McCullough
   * Presented at the 2022 Biennial Beeronomics Conference
5. *Beer Excise Taxes and the Craft Beverage and Modernization Tax Reform Ac*t; Gary W. Brester, Michael McCullough, Joseph Atwood, and Caroline Graham Austin
   * Presented at Montana State University DAEE 2021 Seminar Series
6. *The Future of San Joaquin Valley Agriculture Under Climate Change and SGMA*; Michael P. McCullough, Lynn Hamilton, Duncan MacEwan
   * Presented at the 2021 Annual Meeting of the Agricultural & Applied Economics Association
   * Presented at the 2020 Virtual Meeting of the Western Agricultural Economics Association
   * Poster at the 2020 California Dairy Sustainability Summit
   * Poster at 2019 Climate Change Research Symposium
7. *Is Light Beer the Healthier Choice? Evidence from Scanner Data;* Michael P. McCullough, Richard Volpe, Xiaowei Cai, and Timothy Park
   * Presented at Colorado State University DARE 2020 Seminar Series
   * Presented at the 2019 Biennial Beeronomics Conference
   * Presented at the 2019 Annual Meeting of the Agricultural & Applied Economics Association
8. *Implications of the Craft Beverage Modernization and Tax Reform Act of 2017 (2019)*; Michael McCullough
   * Presented at the 2019 Annual Meeting of the Agricultural & Applied Economics Association
9. *The Changing Landscape of California Agriculture: Implications of Increasing Regulatory Costs*; Lynn Hamilton, Michael McCullough, and Duncan MacEwan
   * Presented at the 2019 Annual Meeting of the Western Agricultural Economics Association
   * Presented at the 2019 Annual Meeting of the Agricultural & Applied Economics Association
10. *A Decade of Change: A Case Study of Regulatory Compliance Costs in the Produce Industry;* Lynn Hamilton and Michael P. McCullough
    * Presented to CDFA Board and Western Growers Association
    * Presented at the 2018 Annual Meeting of the Western Agricultural Economics Association
    * Presented at Montana State University DAEE 2018 Seminar Series
    * Presented at the 2019 Annual Meeting of the Australasian Agricultural & Resource Economics Society
11. *Craft Beer Expenditures and Health Outcomes: A Difference-in-Difference Approach;* Richard Volpe, Michael P. McCullough, and Michael Adjemian
    * Presented at the 2017 Biennial Beeronomics Conference.
12. *Beer and the US Dietary Guidelines: What is Healthful Consumption?* Michael P. McCullough and Richard Volpe
    * Presented at Washington State University 2017 Seminar Series
    * Presented at the 2017 Annual Meeting of the Australasian Agricultural & Resource Economics Society
13. *A Comparison of the Cost of Regulation in the Wine Industry: California vs. South Australia;* Timothy Delbridge, Lynn Hamilton, Michael P. McCullough
    * Presented at the 2017 Annual Meeting of the Australasian Agricultural & Resource Economics Society
14. *Regulatory Costs in California Agriculture;* Michael P. McCullough, Lynn Hamilton, Jay Noel, Duncan MacEwan
    * Presented at the 2016 Annual Meeting of the Agricultural & Applied Economics Association
15. *Beer Purchasing Behavior, Dietary Quality, and Health Outcomes among U.S. Adults;* Michael P. McCullough, Richard Volpe, Michael Adjemian, and Timothy Park
    * Presented at the 2015 Biennial Beeronomics Conference.
16. *Here Today, Gone Tomorrow: An Analysis of Exit by Breweries in New England*; Joshua Berning and Michael P. McCullough
    * Presented at the 2015 Biennial Beeronomics Conference.
17. *If You Brew It They Will Come: Homebrewing Legalization and the Craft Brewing Industry*; Michael P. McCullough, Joshua Berning, Jason L. Hanson, and Hillary Block
    * Presented at the 2015 Biennial Beeronomics Conference.
18. *Central Coast Economic Outlook of the Agriculture Sector;* Michael P. McCullough
    * Presented to Heritage Oaks Bank August 2015, Santa Barbara, CA
19. *Teaching Technology in a Way That Makes Sense: AGB 260, Agribusiness Data Literacy*, Michael P. McCullough and Erik Slayter.
    * Presented at the 2014 Annual Meeting of the Western Education and Research Activities – 72.
    * Presented at the Cal Poly Instructional Innovation Showcase 2013, San Luis Obispo, CA
20. *Quality Competition in the Craft Beer Industry: An Empirical Analysis of New England*, Joshua Berning and Michael P. McCullough
    * Presented at the 2014 Annual Meeting of the Agricultural & Applied Economics Association.
    * Presenting at the 2014 Annual Meeting of the Food Distribution Research Society.
21. *Cultivating Your Data*, Michael P. McCullough and Calli Jaqua
    * Presented at the 2014 annual meeting of the Western Fairs Association
22. *Transportation and Production Cost Effects on the Competitive Boundaries for Celery and Strawberries*, Michael P. McCullough, Sean P. Hurley, Jay E. Noel, Mechel S. Paggi, and Fumiko Yamazaki.
    * Presented at the 2013 Annual Meeting of the Western Agricultural Economics Association
23. *Agribusiness’ Curriculum: Flexibility for Innovation*, Michael P. McCullough
    * Presented at the Cal Poly Instructional Enhancement Brownbag May 2013, San Luis Obispo, CA
24. *Teaching What Really Matters in a Way That Makes Sense*, Michael P. McCullough and Erik Slayter.
    * Presented at the Cal Poly Instructional Innovation Showcase May 2013, San Luis Obispo, CA
25. *Monetary Factors and U.S. Food Price Levels;* Michael P. McCullough, Andrew Pulford, Jim Ahern, and Eivis Qenani
    * Presented at the 2012 Annual Meeting of the Western Agricultural Economics Association
26. *The Impacts of Changes in Agricultural Transportation Sector on the Competitiveness of the California Specialty Crop Industry*
    * Presented to Industry Stakeholders June 2012, Salinas, CA
    * Presented at the 2012 Annual Meeting of the Agricultural & Applied Economics Association.
27. *Optimal Market Supply of Protected ‘Blood Orange-Clementine’ Genetics*; Jim Ahern and Michael McCullough
    * Presenting at the 2011 Annual Food Distribution Research Meetings
28. *Coordinating on Reducing Advertising: Carbonated Soft Drinks Industry and Combating Obesity;* Joshua Berning and Michael McCullough
    * Presented at the 2011 Annual Meeting of the Agricultural & Applied Economics Association.
29. *Biodynamic Wine and the Millennial Generation*; Michael McCullough, and Eivis Qenani
    * Presented at the 2011 XVIII Annual Enometrics Meeting.
30. *Intertemporal Alcohol Dependency: Like Father, Unlike Son*; Michael P. McCullough,

Thomas L. Marsh, and Trenton G. Smith

* Presented at the 2009 Biennial Beeronomics Conference.
* Presented to AGB Advisory Council May 8, 2009.

# *Economic and Environmental Impacts of Washington State Biofuel Policy Alternatives*; Michael P. McCullough, David Holland, Kathleen Painter, Leroy Stodick, and Jonathan Yoder

* Presented to AGB Advisory Council October 10, 2009.
* Presented at the 2009 Annual Meeting of the Western Agricultural Economics Association.

1. *Reconstructing Market Reactions to Consumption Harms*; Michael P. McCullough, Thomas L. Marsh, and Ray Huffaker

* Presented at the 2007 Annual Meeting of the Agricultural & Applied Economics Association.

1. *Nonlinear Structure in Regression Residuals*; Michael P. McCullough, Thomas L. Marsh, and Ron C. Mittelhammer

* Presented at the 2008 North American Summer Meetings of the Econometric Society.

**NEW COURSE CREATION/DESIGN/IMPLEMENTATION**

AGB 327, Agribusiness Data Analysis

AGB 427, Advanced Agribusiness Data Analysis

AGB 470, Special Topics: Economics, Society, and Beer

WVIT 433, Professional Wine Selling, Initial development and design done jointly by Cal Poly, Fresno State, and Sonoma State. Final module development, refinement, and first classroom instruction at Cal Poly State Univ.

**TEACHING**

AGB 212, Agricultural Economics, Cal Poly State Univ.

AGB 260, Agribusiness Information Technology, Cal Poly State Univ.

AGB 309, Advanced Sales Techniques, Cal Poly State Univ.

AGB 310, Agribusiness Credit and Finance, Cal Poly State Univ.

AGB 327, Agribusiness Data Analysis, Cal Poly State Univ.

AGB 400, Independent Study, Cal Poly State Univ.

AGB 422, Transportation and Logistics in Global Agribusiness, Cal Poly State Univ.

AGB 460, Research Methods, Cal Poly State Univ.

AGB 461, Senior Project, Cal Poly State Univ.

AGB 462, Agribusiness Senior Project-Applied Problems, Cal Poly State Univ.

AGB 470, Special Topics: Economics, Society, and Beer, Cal Poly State Univ.

NR 326, Natural Resource Economics and Valuation, Cal Poly State Univ.

WVIT 102, Global Wine and Viticulture, Cal Poly State Univ.

WVIT 433, Professional Wine Selling, Cal Poly State Univ.

WVIT 447, Logistics for the Global Wine Industry

ECONS 101, Fundamentals of Microeconomics, Washington State Univ.

ECONS 305, Theory of the Firm and Market Policy, Washington State Univ.

ECONS 323, Labor Economics, Washington State Univ.

ECONS 450, Advanced Farm and Ranch Management, Washington State Univ.

ECONS 451, Advanced Food Economics and Marketing, Washington State Univ.

# SERVICE

Current Committee Assignments:

Agribusiness Curriculum Committee

Faculty Search/Screening Committee

Undergraduate & Graduate Advisor

Previous Committee Assignments:

Academic Advisor for Wine Business Concentration Students (2010-2012)

Academic Senate Curriculum Committee (2015-2020)

Agribusiness Curriculum Committee (2010-2012)

Agribusiness Curriculum Committee Chair (2013-2020)

Agribusiness Minor Coordinator (2009-2010)

California Strategic Growth Council, Transformative Climate Communities DUC Workgroup (2021-2022)

CAFES Curriculum Committee (2010-2013)

CAFES Curriculum Committee Chair (2014-2020)

CAFES Curriculum Committee Vice Chair (2013-2014)

CAFES Instructional Enhancement Committee (2012-2016)

Climate Change Roundtable on Working Lands, Water, and Biodiversity (2022)

Developed Agribusiness Policies on Classroom Deportment and Civility (2009)

Faculty Advisor Wine & Viticulture International Summer Exchange (2009)

FFA Marketing Plan Contest (2009-2014)

Finance and Accounting Concentration Committee Member (2008-2009)

Resilient SLO Roundtable Member (2021-2022)

RFD-TV Fresh Fruit and Vegetable Report (2014-2015)

Search Committee Chair, Food Marketing Position (2015)

Search Committee Chair, Food Retail Management Position (2014)

Team coach of the Food Distribution Research Society’s Team Marketing Challenge (2014-2017)

Vines-to-Wines Academic Club Advisor (2009-2011)

Reviewer for *Agricultural Systems*, *Choices, Energy Economics, Food Policy*, *Journal of Applied Statistics, Journal of Statistical Computation and Simulation, Western Economics Forum, Journal of Wine Economics, Agricultural and Resource Economics Review, PLOSONE, Regulation and Governance, University of California Press, California Agriculture, Journal of Regional Analysis and Policy, Agribusiness*

**AWARDS**

MSU Initiative for Regulation and Applied Economic Analysis, Visiting Scholar; 2018, 2020.

Sun West Foods Inc. Outstanding Agribusiness Faculty Member; 2011, 2021.

Oreggia Family Grant funding program, 2009.

AAEA Foundation Travel Grant, 2007

Len B. and Grace Jordan Scholarship recipient, 2001-2003