Gonzalo Miyagusuku Cruzado, PhD

Assistant Professor | Department of Family of Consumer Sciences
New Mexico State University (NMSU) | Las Cruces, NM, USA | gonzalom@nmsu.edu
ORCID iD 0000-0002-4420-6022 | LinkedIn profile | ResearchGate profile

SUMMARY

Dynamic and results-driven R&D leader with a proven track record in fostering innovation and directing diverse, cross-functional teams. Leveraging a deep passion for learning and an ability to tailor strategies to individual team members, I excel in devising and implementing strategic solutions. Adept at orchestrating complex, high-value projects and generating breakthrough ideas to drive product development and organizational growth. Experienced in leading R&D initiatives in colors, flavors, food protection, and active food packaging, with a robust portfolio of publications and patents.

I have taught courses in food science and food chemistry at both the undergraduate and the graduate level since 2017. I authored 15+ peer-reviewed publications, 2 book chapters, 4 invention disclosures, and 3 patents (1 accepted and 2 under evaluation). As an extension professional, I have worked with agricultural cooperatives, start-ups, multinationals, and academic institutions in more than ten sponsored research projects, and I have helped secure more than US$ 1,000,000 in research funds. Passionate about research, teaching, and mentoring.

EDUCATION

Doctor of Philosophy: Food Science and Technology 01/2016 – 08/2021
The Ohio State University, Columbus, Ohio, United States.
Dissertation: *Evaluation of the Interaction Between Whey Proteins and Anthocyanins and Pyranoanthocyanins in Solution and its Effects on Color Expression*.
Advisor: M. Monica Giusti, PhD.

Master of Science: Bioscience and Biotechnology 09/2013 – 08/2015
Kyushu University, Fukuoka, Japan.
Thesis: *Study on the Antidiabetic Properties of 6-O-Caffeoylsophorose*.
Advisor: Toshiro Matsui, PhD

Bachelor of Science in Food Engineering 08/2006 – 07/2011
La Molina National Agrarian University, Lima, Perú.

EMPLOYMENT HISTORY

Department of Family and Consumer Sciences at NMSU 1 month
Assistant Professor – Food Science 08/2021 – present

Kalsec Inc. 3 years
Lead Scientist I – Color Innovation 04/2025 – 08/2025

- Developed solutions for improving the stability of natural colorants including:
  - Improving the photostability of turmeric-based emulsions.
  - Increasing the thermal resistance of beet extracts.
  - Evaluating novel antioxidants to stabilize paprika-based formulations.
- Initiated the product renovation of 6+ formulations of annatto-based colorants.
- Evaluated the formation and application of novel anthocyanin-derived pigments as Red40 replacers.
- Led multiple customer projects focused on replacing petroleum-based dyes in diverse food matrices.

Lead Scientist I and Program Lead – Discovery and Open Innovation 09/2022 – 04/2025

- Defined project scope and expectations by engaging stakeholders and aligning with the company's strategic vision for the colors, flavors and taste innovation, and food protection business units.
- Led a multi-disciplinary team overseeing daily operations in analytical chemistry, sensory testing, culinary aspects, and consumer insights, managing 10+ R&D projects worth over $5M/each.
- Developed and implemented workflows and SOPs for the Novel Natural Products program, enhancing efficiency and innovation.

Department of Food Science at The Ohio State University (tOSU) 1 year
Postdoctoral Researcher with Principal Investigator Status 08/2021 – 08/2022

- Conducted collaborative research and provided consultation, leveraging deep subject matter expertise.
- Secured over $1M in research funding, demonstrating strategic acumen and ability to garner support for innovative projects.
- Earned Principal Investigator (PI) status, reflecting leadership in research initiatives.

Giusti Phytochemicals Laboratory at tOSU 1 year 9 months
Research Laboratory Manager 11/2020 – 08/2022

- Supervised laboratory operations and managed safety protocols, ensuring a safe and efficient research environment.

- Enhanced lab capabilities through strategic acquisitions, investing over $100K in cutting-edge analytical instruments and mentored students, fostering growth and knowledge expansion within the team.

Food Science Undergraduate Research Experience at tOSU 1 year 9 months
Research Program Coordinator 03/2020 – 12/2021

- Sustained involvement in the undergraduate research program during COVID lockdown/restrictions.
- Increased enrollment to 20 students with more than 5 research and academic distinctions.

Department of Food Science and Technology at tOSU 2 years 8 months
Graduate Research Assistant 01/2019 – 08/2021

Faculty of Agriculture at Kyushu University (Fukuoka, Japan) 5 months
Student Research Assistant 04/2013 – 08/2013

Grupo Camposur SAC (Lima, PE) 7 months
Quality Assurance Assistant 05/2012 – 11/2012

HONORS AND AWARDS

2023 **Level IV Researcher** awarded by the Peruvian CONCYTEC.

2022 **Principal Investigator Status** awarded by The Ohio State University.

2022 **1st place** in the Postdoctoral Poster Competition hosted by the College of Food, Agricultural, and Environmental Sciences (CFAES) at The Ohio State University.

2021 **Graduate Student Outstanding Researcher Award** by the Department of Food Science and Technology at The Ohio State University.

2021 **1st place** in the Nutraceuticals and Functional Foods Graduate Student Oral Competition at the Institute of Food Technologists (IFT) Annual Meeting and Expo.

2021 **Finalist** for oral presentation in the Food, Agricultural, and Environmental Sciences division at the Edward F. Hayes Graduate Research Forum.

2020 **2nd place** in the Graduate Student Paper Competition in Diary Foods at the American Dairy Science Association (ADSA) Annual Meeting.

2019 **1st place** in the Food Chemistry Division Graduate Student Oral Competition at Institute of Food Technologists (IFT) Annual Meeting and Expo.

2019 **Finalist** in the Graduate Student Paper Competition in Dairy Foods at the American Dairy Science Association (ADSA) Annual Meeting.

2018 **1st place** in the Graduate Student Poster Presentation Competition in Dairy Foods at the American Dairy Science Association (ADSA) Annual Meeting.

2018 **Finalist** in The National Dairy Council® New Product Competition with the project "Moocakes".

2015 **Funding for Doctoral Studies** awarded by the Peruvian Government through the Fondo Nacional de Desarrollo Científico, Tecnológico y de Innovación Tecnológica (FONDECYT).

2013 **Scholarship for Master's Studies** awarded by the Japanese Ministry of Education, Culture, Sports, Science, and Technology.

2012 **Scholarship for Graduate Studies as a Student Researcher** awarded by the Japanese Ministry of Education, Culture, Sports, Science, and Technology.

PUBLICATIONS

Peer-reviewed journal articles

1. Yao, S; Fountain, J; **Miyagusuku-Cruzado, G**; West, M; Nwosu, V; Dowd, E; Giusti, MM; Rodriguez-Saona, LE (2025). Portable mid-infrared spectroscopy combined with chemometrics to detect toxic metabolites, aflatoxins in *Aspergillus*-infected peanuts. *LWT*, 215: 117186. https://www.sciencedirect.com/science/article/pii/S0023643824014695
2. Salazar-Mendoza, P; **Miyagusuku-Cruzado, G**; Giusti, MM; Rodriguez-Saona, C (2024). Genotypic variation and potential mechanisms of resistance against multiple insect herbivores in cranberries. *Journal of Chemical Ecology*, 1-16. https://link.springer.com/article/10.1007/s10886-024-01522-w#citeas
3. Garsow, AV; Torres, OR; Matute, JA; Voss, DM; **Miyagusuku-Cruzado, G**; Giusti, MM; Kowalcyk, BB (2024). Dietary, socioeconomic, and maize handling practices associated with aflatoxin and fumonisin exposure among women tortilla makers in 5 departments of Guatemala. *PLOS Global Public Health,* 4(2): e0001623. https://journals.plos.org/globalpublichealth/article?id=10.1371/journal.pgph.0001623
4. Yao, S; **Miyagusuku-Cruzado, G**; West, M; Nwosu, V; Dowd, E; Fountain, J; Giusti, MM; Rodriguez-Saona, LE (2024). Non-destructive and rapid screening of aflatoxin-contaminated single peanut kernels by using field-portable spectroscopy instruments (FT-IR and Raman). *Foods,* 13(1): 157. https://www.mdpi.com/2304-8158/13/1/157

5. **Miyagusuku-Cruzado, G**; Cheng, Y; Voss, DM; Giusti, MM (2023). High yield production of cyanidin-derived pyranoanthocyanins using 4-vinylphenol and 4-vinylguaiacol as cofactors. *Food Chemistry*: 136705. https://www.sciencedirect.com/science/article/pii/S0308814623013237
6. Voss, DM; Tang, F; Riedl, K; **Miyagusuku-Cruzado, G**; Yao, S; Rodriguez-Saona, L; Hatzakis, E; Giusti, MM (2023). Structure elucidation of 4-carboxy-3-deoxyanthocyanidins formed from thermal degradation of hydroxyphenyl-pyranoanthocyanins. *New Journal of Chemistry*, 47(43): 20048-20060. https://pubs.rsc.org/en/content/articlehtml/2023/nj/d3nj02233a
7. Voss, DM; **Miyagusuku-Cruzado, G**; Giusti, MM (2023). Thermal stability comparison between 10-catechyl-pyranoanthocyanins and anthocyanins derived from pelargonidin, cyanidin, and malvidin. *Food Chemistry, 403*: 134305. https://www.sciencedirect.com/science/article/pii/S0308814622022671
8. **Miyagusuku-Cruzado, G**; Voss, DM; del Carpio Jiménez, C; Lao, F; Jing, P; Zhang, K; Zhou, Y; Grouge, S; Giusti, MM (2022). The amazing colors of Peruvian biodiversity: Select Peruvian plants for use as food colorants. *Anales Científicos* 83(1): 1-17. https://dialnet.unirioja.es/servlet/articulo?codigo=8530847
9. Yao, S; Ball, C; **Miyagusuku-Cruzado, G**; Giusti, MM; Rodriguez-Saona, LE. (2022) A novel handheld FT-NIR spectroscopic approach for real-time screening of major cannabinoids content in hemp. *Talanta, 247: 123559*. https://www.sciencedirect.com/science/article/pii/S0039914022003551
10. Voss, DM; **Miyagusuku-Cruzado, G**; Giusti, MM. (2022). Comparing the thermal stability of 10-carboxy-, 10-methyl-, and 10-catechyl-pyranocyanidin-3-glucosides and their precursor, cyanidin-3-glucoside. *NPJ Science of Food*, 6(1): 1-9. https://www.nature.com/articles/s41538-022-00131-9
11. **Miyagusuku-Cruzado, G**; Voss, DM; Giusti, MM. (2021). Influence of the Anthocyanin and Cofactor Structure on the Formation Efficiency of Naturally Derived Pyranoanthocyanins. *International Journal of Molecular Sciences,* 22(13): 6708. https://www.mdpi.com/1422-0067/22/13/6708
12. **Miyagusuku-Cruzado, G**; Jimenez-Flores, R; Giusti, MM. (2021). Whey protein addition and its increased light absorption and tinctorial strength of model solutions colored with anthocyanins. *Journal of Dairy Science*, 104(6): 6449-6462. https://www.sciencedirect.com/science/article/pii/S0022030221004495
13. Rocha-Mendoza, D; Kosmerl, E; Krentz, A; Zhang, L; Badiger, S; **Miyagusuku-Cruzado, G**; Mayta-Apaza, A; Giusti, MM; Jimenez-Flores, R; Garcia-Cano, I. (2021) Invited Review: Acid whey trends and health benefits. *Journal of Dairy Science*, 104(2): 1262-1275. **IF '21: 3.92** https://www.sciencedirect.com/science/article/pii/S0022030220310559

14. **Miyagusuku-Cruzado, G**; García-Cano, I; Rocha-Mendoza, D; Jiménez-Flores, R; Giusti, MM. (2020). Monitoring hydroxycinnamic acid decarboxylation by lactic acid bacteria using high-throughput UV-Vis spectroscopy. *Molecules*, 25(14): 3142. https://www.mdpi.com/1420-3049/25/14/3142
15. Pangestu, NP; **Miyagusuku-Cruzado, G**; Giusti, MM. (2020). Copigmentation with chlorogenic acid and ferulic acid affected color and anthocyanin stability in model beverages colored with *Sambucus peruviana*, *Sambucus nigra*, and *Daucus carota* during storage. *Foods*, 9(10): 1476. https://www.mdpi.com/2304-8158/9/10/1476
16. Rocha-Mendoza, D; Kosmerl, E; **Miyagusuku-Cruzado, G**; Giusti, MM; Jiménez-Flores, R; García-Cano, I. (2020). Growth of lactic acid bacteria in milk phospholipids enhances their adhesion to Caco-2 cells. *Journal of Dairy Science*, 103(9): 7707-7718. https://www.sciencedirect.com/science/article/pii/S0022030220305385
17. **Miyagusuku-Cruzado, G**; Morishita, N; Fukui, K; Terahara, N; Matsui, T. (2017). Anti-diabetic effect of 6-*O*-caffeoylsophorose in prediabetic rats and its stimulation of glucose uptake in L6 myotubes. *Food Science and Technology Research*, 23(3): 449-456. https://www.jstage.jst.go.jp/article/fstr/23/3/23_449/_article/-char/ja/
18. Leon-Roque, N; Monteza Arbulu, C; Oblitas-Cruz, J; **Miyagusuku-Cruzado, G**. Spent purple corn (*Zea mays* L.) byproduct streams as promising source of phytochemicals: Characterization and extraction optimization. *Under review in Scientia Agricola*.
19. Nuñez-Alejos, L; León-Roque, N; Nuñez-Leon, JL; **Miyagusuku-Cruzado, G**. Influence of fermentation time and degree of roasting on the chemical characteristics of 3 coffee varieties (*Coffea arabica* L.) from Montero, Ayabaca, Piura. *Under review in Coffee Science*.

Conference Proceedings

1. **Miyagusuku-Cruzado, G**; Voss, DM; Giusti, MM. (2021). Separation of Pyranoanthocyanins from Precursor Anthocyanins Using Cation-Exchange Chromatography. *Polyphenols Communications*, e-vol.1(1): 113-115.
2. Voss, DM; **Miyagusuku-Cruzado, G**; Giusti, MM. (2021). Thermal Degradation of 10-catechyl Pyranoanthocyanins Derived from Pelargonidin-, Cyanidin-, and Malvidin-3-glucosides. *Polyphenols Communications*, e-vol.1(1): 193-194.

Book Chapters

1. Giusti, MM; Voss, DM; **Miyagusuku-Cruzado, G** (2024). Color Measurements of a Solid and Calculation of Color Specifications from Spectral Data. In *Nielsen's Food Analysis Laboratory Manual* (pp. 219-223). Springer International Publishing.

2. Giusti, MM; **Miyagusuku-Cruzado, G**; Wallace, TC (2023). Flavonoids as Natural Pigments. In *Handbook of natural colorants, 2nd Edition* (pp. 371-390). John Wiley & Sons.

Undergraduate Theses Advised

1. Ortiz-Santiago, TN (2023). Evaluation of pyranoanthocyanin formation efficiency using 4-vinylguaiacol as a cofactor. Undergraduate Research Thesis, The Ohio State University. **Miyagusuku-Cruzado, G** and Giusti, MM (co-advisors).
2. Cheng, Y. (2021). More efficient formation of 10-phenyl-pyranoanthocyanins using 4-vinylphenol. Undergraduate Research Thesis, The Ohio State University. **Miyagusuku-Cruzado, G** and Giusti, MM (co-advisors).

TEACHING EXPERIENCE

Undergraduate Level Teaching:

FDSCTE 5610 Food Analysis, Guest Lecturer, Spring 2022

- Introduction to High-Performance Liquid Chromatography. February 2022.
- UV-Vis Spectroscopy. Food Analysis. January 2022.

FDSCTE 5710 Food Additives, Guest Lecturer, Spring 2022

- Polyols. February 2022.
- Antioxidants and Sequestrants. January 2022.

Graduate Level Teaching:

FDSCTE 7630 Food Colors and Pigments, Collaborator, Fall 2021

- Produced audio-visual educational materials to illustrate methods of color and pigment analyses:
    - Quantification of monomeric and polymeric anthocyanins
    - Instrumentation for color measurements
    - EasyMatch Software and ColorQuest Data Evaluation
    - Determination of Total Phenolics
    - Pigment Extraction from Plant Materials
    - Anthocyanin Semi-Purification Using Solid Phase Extraction

FDSCTE 7610 Instrumental Analysis I: Spectroscopic and Chromatographic Techniques in Food Analysis, Teaching Assistant, Fall 2020

- Helped design, prepare, set up, and carry out experiments in the laboratory.
- Guided students in conducting their hands-on projects correlating spectroscopic and chromatographic methodologies.

- Nominated to the Outstanding Teaching Assistant Award by the Department of Food Science and Technology at The Ohio State University.

FDSCTE 7630 Food Colors and Pigments, Teaching Assistant, Spring 2019

- Helped design, prepare, set up, and carry out experiments in the laboratory.
- Helped update laboratory handouts.
- Helped students carry their hands-on project for extraction and evaluation of food pigments.
- Nominated to the Outstanding Teaching Assistant Award by the Department of Food Science and Technology at The Ohio State University.

UNALM AL8013. Tópicos en Ciencia de Alimentos I, 2020 and 2021

- Accelerated intensive course (20 hours). Enrollment 12-29. UNALM, Graduate Program in Food Science.
- Produced audio-visual educational materials related to the pilot and dairy plants at The Ohio State University.
- Produced audio-visual educational materials to illustrate methods of color and pigment analyses.
- Produced video-tours of the Rodriguez-Saona Vibrational Spectroscopy Laboratory and the Giusti Phytochemicals Laboratory.

Continuing Education Teaching:

Virtual Training in the Use and Management of ultra-High Pressure Liquid Chromatography Coupled to Photodiode Array and Mass Detectors

- Course for a team of Peruvian researchers from the Universidad Nacional Pedro Ruiz Gallo – Lambayeque sponsored by the 2018–2021 Equipment Grant from FONDECYT and the World Bank
- Helped design the short course for a team of professors and researchers from Peru.
- Prepared and delivered a lecture: Introduction to High-Pressure Liquid Chromatography.

Natural Dyes and Food Colorants Intensive Course, August 2017

- Helped design the short course for a team of Academia and Government representatives from the Philippines, at the Department of Food Science at The Ohio State University.
- Prepared and delivered a guest lecture: Novel Techniques for extraction of Natural Dyes.

INVENTIONS AND PATENTS

Patent application (2025). Bruke, N; Redwine, J; **Miyagusuku-Cruzado, G**. Pungency Modifiers and Method for Modulating Pungency in Foodstuff.

Patent WO2021163679A1 (2021). Zhu, X; Straathof, N; **Miyagusuku-Cruzado, G**; Garcia-Cano, I; Jimenez-Flores, R; Giusti, MM. Methods for Rapid Synthesis of Pyranoanthocyanins.

Patent WO2024151693A1 (2024). Fan, X; **Miyagusuku-Cruzado, G**; Giusti, MM. A Vibrant and Stable Blue Colorant and Methods of Making and Use Thereof.

Invention Disclosure IDF-060019 (2023). Fan, X; **Miyagusuku-Cruzado, G**; Giusti, MM. A vibrant and stable anthocyanin-based blue colorant from eggplant and yerba mate for use in acidic environments.

Invention Disclosure IDF-057844 (2022). Ahmadiani, N; Saldo Periago, J; **Miyagusuku-Cruzado, G**; Giusti, MM. Selective extraction of polyphenols from apple pomace.

Invention Disclosure IDF-048887 (2020). **Miyagusuku-Cruzado, G**; García-Cano, I; Jiménez-Flores, R; Giusti, MM. More efficient production of pyranoanthocyanins using 4-vinylphenols obtained from hydroxycinnamic acid decarboxylation by lactic acid bacteria.

Invention Disclosure IDF-041136: Zhou, Y; **Miyagusuku-Cruzado, G**; Sarantis, S; Yu, F; Zhu, X; Giusti, MM; Rodríguez-Saona, LE. (2018). Novel high protein high fiber dairy snack produced from by-product of butter processing.

GRANTMANSHIP

Funded proposals: helped secure US$ 1,057,586

United States Department of Agriculture (USDA), Agriculture and Food Research Initiative Competitive Grants Program (2023) $ 650,000

- Upcycling agro-industrial byproducts to develop the next generation of food colorants derived from nature. Miyagusuku-Cruzado, G; Voss, DM; Giusti, MM (PI).
- Contribution: Proposal writing and experimental design.

Research Grant, sponsored by an industry partner. (2022) $ 120,000

- Consultation and Chemical Analyses for Pigment Characterization and Performance. Miyagusuku-Cruzado, G; Giusti, MM (PI).
- Contribution: Proposal writing and experimental design.

Research Grant, CFAES (2022) $ 5,000

- Expanding the color palette of pyranoanthocyanins, naturally derived food pigments, by evaluating the influence of structural variations on color expression and stability. Proposal funded through CFAES Research & Graduate Education Internal Grants Program. Voss, DM; Giusti, MM (PI).

- Contribution: Assisted with experimental design and reviewed the proposal.

Intellectual Property Accelerator Program, CFAES (2022) $ 25,000
- Efficient production of stable naturally derived food colorants: Scale-up using more efficient cofactors and lactic acid bacteria. Giusti, MM (PI).
- Contribution: Initial idea, experimental design, proposal writing, and coordination with instrument manufacturer.

Equipment Program Grant, CFAES (2021) $ 42,285
- Acquisition of a JASCO J-1500 Circular Dichroism Spectropolarimeter. Giusti, MM (PI); Rodríguez-Saona, L; Campanella, O; Peterson, D; and Hatzakis, E.
- Contribution: Initial idea, proposal writing, coordination among collaborators, and coordination with instrument manufacturer.

Research Grant, FoodSURE (2021) $ 1,750
- Evaluation of pyranoanthocyanin formation efficiency using 4-vinylguaiacol as a cofactor. Proposal funded by the Department of Food Science and Technology. Ortiz-Santiago, TN; Giusti, MM (PI).
- Contribution: Mentorship and laboratory supervision of Thania Ortiz-Santiago. Participated in the experimental design, project execution, and reviewed the proposal.

Research Grant, FoodSURE (2020) $ 1,750
- Determination of the optimal ratio of cyanidin-derived anthocyanin to 4-vinyphenol for pyranoanthocyanin synthesis. Proposal funded by the Department of Food Science and Technology. Cheng, Y; Giusti, MM (PI).
- Contribution: Mentorship and laboratory supervision of Yesen Cheng. Participated in the experimental design, project execution, and reviewed the proposal.

Research Grant, CFAES (2018) $ 5,000
- Color enhancement and stabilization of natural pigments with whey proteins. Project funded through SEEDS: The CFAES Research Competitive Grants Program. Project ranked 7th within this category. Miyagusuku-Cruzado, G; Giusti, MM. (2018).
- Contribution: Initial idea, proposal writing, experimental design, project execution, and reporting to funding institution.

Funding for Doctoral Studies (2015) $ 206,801
- Funding for doctoral studies awarded by the Peruvian Government through the Fondo Nacional de Desarrollo Científico, Tecnológico y de Innovación Tecnológica, FONDECYT for Miyagusuku-Cruzado, G.
- Contribution: Proposal writing, budget management, project execution, and reporting to funding institution.

EXTENSION

Collaborative work with the food industry

Confidential company 1 (2021 – 2022)
Preliminary Consultation and Chemical Analyses for Colorant Characterization and Performance Evaluation.
Miyagusuku-Cruzado, G and Giusti, MM.
Contribution: Experimental design, project execution, reporting, and consultation service.

Confidential company 2(2020 – 2022)
Quantification of Total Phenolics Sorghum Extracts Using the Folin-Ciocalteu Spectrophotometric Method.
Miyagusuku-Cruzado, G and Giusti, MM.
Contribution: Experimental design, project execution, reporting, and consultation service.

Detection of Dhurrin in Sorghum Extracts.
Miyagusuku-Cruzado, G and Giusti, MM.
Contribution: Experimental design, project execution, reporting, and consultation service.

Qualitative and Quantitative Analysis of sorghum Extracts Using Colorimetric Methods and U UHPLC-PDA-ESI-MS/MS.
Miyagusuku-Cruzado, G and Giusti, MM.
Contribution: Experimental design, project execution, reporting, and consultation service.

Confidential company 3 (2020)
Quantification and Profiling of Anthocyanins in Purple Corn Kernels.
Miyagusuku-Cruzado, G and Giusti, MM.
Contribution: Experimental design, project execution, and reporting.

Confidential company 4 (2018)
Consultation and Chemical Analyses for US FDA Color Additive Petition.
Sigurdson, GT and Giusti, MM.
Contribution: Collaborator, optimization of a pigment extraction method, and experimental planning and execution.

Confidential company 5 (2017)
Anthocyanin Profiling and Color Characterization of Purple Corn Cob Samples.
Miyagusuku-Cruzado, G; Sigurdson, GT; and Giusti, MM.
Contribution: Experimental design, project execution, and reporting.

Collaborative work with agricultural cooperatives

Cherry Central Cooperative Inc. (2016)
Melatonin Quantification in a Tart Cherry Extract Using HPLC with Fluorescence Detection.
Miyagusuku-Cruzado, G and Giusti, MM.
Contribution: Experimental design, project execution, and reporting.

Tart Cherry Extract Carbohydrate and Polyphenol Analyses.
Miyagusuku-Cruzado, G and Giusti, MM.
Contribution: Experimental design, project execution, and reporting.

Japan Agricultural (JA) Food Research & Development Inc., Japan (2013 – 2015)
Study on the Antidiabetic Properties of 6-O-Caffeoylsophorose
Miyagusuku-Cruzado, G and Matsui, T.
Contribution: Experimental design, project execution, and reporting.

Collaborative work with academic and research institutions

Universidad Nacional de Barranca, Lima, Peru (2024)
HPLC-PDA-ESI-MS/MS Profiling of Phenolics and Flavonoids from pitahaya (*Selenicereus undatus*).
Miyagusuku-Cruzado, G.
Contribution: Experimental design, project execution, and reporting.

Universidad Nacional Pedro Ruiz Gallo, Lambayeque, Peru (2024)
Phenolic, flavonoid, and anthocyanin content of spent purple corn byproducts.
Miyagusuku-Cruzado, G.
Contribution: Experimental design, project execution, and reporting.

Universidad Nacional de Frontera, Piura, Peru (2024)
Effect of fermentation time and degree of roasting on the phenolic, flavonoid, chlorogenic acid, and caffeine content in three varieties of coffee.
Miyagusuku-Cruzado, G.
Contribution: Experimental design, project execution, and reporting.

Universidad Nacional Pedro Ruiz Gallo, Lambayeque, Peru (2022)
Consultation on the use of an HPLC-PDA-ESI-MS instrument for the identification of secondary metabolites in vegetables.
Miyagusuku-Cruzado, G.
Contribution: Experimental design, project execution, and reporting.

CFAES Center for Foodborne Illness Research and Prevention (2022)

PESAR: Estimating mycotoxin exposure and increasing food security in Guatemala.
Contribution: Consultation, method optimization, and reporting.

Universidad Nacional de San Antonio Abad del Cusco, Peru (2017)
HPLC-PDA-ESI-MS/MS Profiling of Anthocyanins from Three Species of Berberis fruits.
Miyagusuku-Cruzado, G and Giusti, MM.
Contribution: Experimental design, project execution, and reporting.

Universidad Nacional Agraria La Molina and Fundo El Carrizal, Perú. (2011 – 2012)
Participation in Desarrollo de Cadenas de Valor para la Conservación de la Biodiversidad y el Mejoramiento de los Medios de Vida Rurales: Caracterización colorimétrica de 12 entradas de ají escabeche (*Capsicum baccatum*).
Miyagusuku-Cruzado, G; Morales-Soriano, E; and Ugas, R.
Contribution: Experimental design, project execution, and reporting.

SERVICE

2025 **Editorial Board Member** for International Journal of Food Properties (ISSN: 1094-2912)

2024 **Reviewer** for Nature's Scientific Reports (ISSN: 2045-2322)

2024 **Review Editor** for Frontiers in Food Science and Technology (ISSN: 2674-1121)

2024 **Reviewer** for the Journal of Food Science (ISSN: 0022-1147)

2024 **Reviewer** for Horticulturae (ISSN: 2311-7524)

2024 **Reviewer** for International Journal of Molecular Sciences (ISSN: 1422-0067)

2023 **Reviewer** for the IFT FIRST: Annual Event and Expo, Food Chemistry Division organized by the Institute of Food Technologists.

2023 **Reviewer** for the IFT FIRST: Annual Event and Expo, Fruits and Vegetables Division organized by the Institute of Food Technologists.

2022 **Reviewer** for the IFT FIRST: Annual Event and Expo, Nutraceutical and Functional Foods Division organized by the Institute of Food Technologists.

2022 **Reviewer** for the IFT FIRST: Annual Event and Expo, Food Chemistry Division organized by the Institute of Food Technologists.

2022 **Judge** for the CFAES Poster Competition organized by the College of Food, Agricultural, and Environmental Sciences.

2022 **Judge** for the FoodSURE Undergraduate Poster Competition organized by the Department of Food Science and Technology at The Ohio State University.

2021 **Judge** for the CFAES Virtual Poster Competition organized by the College of Food, Agricultural, and Environmental Sciences.

2021 **Reviewer** for the Journal of Food Science (ISSN: 0022-1147).

2021 **Judge** in the State Science Day 2021 organized by The Ohio Academy of Science.

2020 **Judge** in the State Science Day 2020 organized by The Ohio Academy of Science.

2019 **Reviewer** for SEEDS: The CFAES Research Competitive Grants Program organized by the College of Food, Agricultural, and Environmental Sciences.

MENTORING EXPERIENCE

February 2022. Co-mentor for Nathan Snizik, high school student winner of the State Science Day 2021 organized by The Ohio Academy of Science. Co-mentors: Monica Giusti and Danielle M. Voss.

August 2021 – 2022. Científico Latino Graduate Student Mentorship Initiative (GSMI) mentor. The aim of this project is to assist underrepresented undergraduate, graduate, and professional students by providing mentorship and guidance for their STEM graduate school application.

March 2020 – December 2021. Program Coordinator of the Food Science Undergraduate Research Experience (FoodSURE) at the Department of Food Science and Technology at The Ohio State University.

September 2021 – April 2022. Mentor and laboratory supervisor for Thania N. Ortiz-Santiago through the FoodSURE program in the Giusti Phytochemicals Laboratory.

January 2020 – April 2021. Mentor and laboratory supervisor for Yesen Cheng through the FoodSURE program in the Giusti Phytochemicals Laboratory.

LEADERSHIP POSITIONS

International Journal of Food Properties *Editorial Board Member*	1 month 08/2025 – present
Frontiers in Food Science and Technology *Review Editor*	1 year 6 months 02/2024 – Present
Kalsec, Inc. *Program Lead*	3 years 09/2022 – 08/2025

International Exercise Association at The Ohio State University *Advisor*	1 year 09/2021 – 08/2022
The Giusti Phytochemicals Laboratory *Laboratory Manager*	1 year 10 months 10/2020 – 08/2022
Food Science Undergraduate Research Experience *Research Program Coordinator*	1 year 9 months 03/2020 – 12/2021
International Exercise Association at The Ohio State University *Vice-President*	2 years 11 months 09/2018 – 08/2021

SCHOLARLY PRESENTATIONS

Invited presentations

Miyagusuku-Cruzado, G (September 2024). Practical applications of liquid chromatography and mass spectrometry. Oral presentation. Barranca, Lima, Peru

Miyagusuku-Cruzado, G (February 2023). The next generation of food colorants derived from nature: Efficient production of pyranoanthocyanins. Catalysis 2023. Oral presentation. Las Vegas, NV.

Miyagusuku-Cruzado, G. (July 2022). Aplicación de cromatografía liquida de alta resolución (HPLC) con espectrómetro de masa en identificación y cuantificación de compuestos fenólicos y flavonoides en vegetales. Virtual oral presentation.

Miyagusuku-Cruzado, G and Giusti, MM. (October 2021). Pyranoanthocyanins, novel anthocyanin-derived pigments: Stability, mechanisms of formation, and future perspectives. XXIII Congreso Chileno de Ciencia y Tecnología de Alimentos. Virtual oral presentation.

Other presentations

Xun, L; Voss, DM; **Miyagusuku-Cruzado, G**; Giusti, MM (March 2023). Value addition of purple corn cob: Anthocyanin-derived food colorants with improved pH stability. Poster presented at The Ohio State University College of Food, Agricultural, and Environmental Sciences Annual Research Conference.

Fan, X; **Miyagusuku-Cruzado, G**; Giusti, MM (March 2023). Extraction of hydroxycinnamic acids by alkaline hydrolysis of grape pomace. Poster presented at The Ohio State University College of Food, Agricultural, and Environmental Sciences Annual Research Conference.

Miyagusuku-Cruzado, G; Voss, DM; Cheng, Y; Giusti, MM (July 2022). High yield production of novel anthocyanin-derived pigments using 4-vinylphenol as a cofactor. Poster presented at the IFT22 Annual Meeting and Expo.

Xun, L; **Miyagusuku-Cruzado, G**; Giusti, MM (July 2022). Formation efficiency and color performance of pyranoanthocyanins derived from anthocyanins and 3-deoxyanthocyanins. Poster presented at the IFT22 Annual Meeting and Expo.

Miyagusuku-Cruzado, G; Voss, DM; Cheng, Y; Giusti, MM (April 2022). Viable Production of Novel Colorants for the Food Industry: More Efficient Pyranoanthocyanin Formation using 4-Vinylphenol. Poster presentation at The Ohio State University College of Food, Agricultural, and Environmental Sciences Annual Research Conference. Awarded **1st place** in the Postdoctoral division.

Ortiz-Santiago, TN; **Miyagusuku-Cruzado, G**; Giusti, MM (April 2022). Novel naturally sourced colorants for the food industry: More efficient pyranoanthocyanin production using 4-vinylguaiacol. Poster presentation at The Ohio State University College of Food, Agricultural, and Environmental Sciences Annual Research Conference. Awarded **3rd place** in the Undergraduate Food Science division.

Xun, L; **Miyagusuku-Cruzado, G**; Giusti, MM (April 2022). Naturally Derived Colorant Production and Color Performance from Pigment-rich Byproducts: Purple Corn Cob and Sorghum Bran. Poster presentation at The Ohio State University College of Food, Agricultural, and Environmental Sciences Annual Research Conference.

Ortiz-Santiago, TN; **Miyagusuku-Cruzado, G**; Giusti, MM (April 2022). Efficient production of novel colorants for the food industry using 4-vinylguaiacol and black carrot derived anthocyanins. Poster presentation at the Spring Undergraduate Research Festival at The Ohio State University.

Ortiz-Santiago, TN; **Miyagusuku-Cruzado, G**; Giusti, MM (March 2022). Novel naturally sourced colorants for the food industry: More efficient pyranoanthocyanin production using 4-vinylguaiacol. Poster presentation at the Food Science Undergraduate Research Experience Poster Competition organized by the Department of Food Science and Technology. Awarded **1st place**.

Miyagusuku-Cruzado, G; Rocha-Mendoza, D; García-Cano, I; Voss, DM; Jiménez-Flores, R; Giusti, MM. (July 2021). Study on the cytotoxicity and cellular antioxidant activity of novel pyranoanthocyanin pigments using Caco-2 cells. Virtual oral presentation at the IFT21 Annual Meeting & Food Expo. Awarded **1st place** in the Nutraceuticals and Functional Foods Division Oral Competition.

Miyagusuku-Cruzado, G; Rocha-Mendoza, D; García-Cano, I; Voss, DM; Jiménez-Flores, R; Giusti, MM. (July 2021). Study on the cytotoxicity and cellular antioxidant activity of novel pyranoanthocyanin pigments using Caco-2 cells. Virtual poster presentation at the IFT21 Annual Meeting & Food Expo.

Miyagusuku-Cruzado, G; Voss, DM; Giusti, MM. (July 2021). Separation of Pyranoanthocyanins from Precursor Anthocyanins Using Cation-Exchange Chromatography. Virtual oral presentation at the ICP2020 XXX International Conference on Polyphenols.

Voss, DM; **Miyagusuku-Cruzado, G**; Giusti, MM. (July 2021). Influence of cofactor structure and anthocyanin aglycone on formation efficiency of pyranoanthocyanins. Virtual oral presentation at the IFT21 Annual Meeting & Food Expo. Awarded **1st place** in the Food Chemistry Division Oral Competition.

Voss, DM; **Miyagusuku-Cruzado, G**; Giusti, MM. (July 2021). Influence of cofactor structure and anthocyanin aglycone on formation efficiency of pyranoanthocyanins. Virtual poster presentation at the IFT21 Annual Meeting & Food Expo.

Voss, DM; **Miyagusuku-Cruzado, G**; Giusti, MM. (July 2021). Thermal Degradation of 10-catechyl Pyranoanthocyanin Derivatives of Pelargonidin-, Cyanidin-, and Malvidin-3-glucosides. Virtual poster presentation at the ICP2020 XXX International Conference on Polyphenols.

Miyagusuku-Cruzado, G; Giusti, MM. (April 2021). Pyranoanthocyanins: Novel anthocyanin-derived pigments with antioxidant activity and no cytotoxic effects on Caco-2 cells. Virtual oral presentation to the 35th Annual Edward F. Hayes Graduate Research Forum at The Ohio State University. Selected as **finalist** in the Food, Agricultural, and Environmental Sciences section.

Voss, DM; **Miyagusuku-Cruzado, G**; Giusti, MM. (April 2021). 10-catechyl-pyranoanthocyanins as heat-stable naturally-derived pigments for coloring food. Abstract/Poster/Sway presented at The Ohio State University College of Food, Agricultural, and Environmental Sciences Annual Research Conference. Awarded **3rd place** in the MS Division competition.

Cheng, Y; **Miyagusuku-Cruzado, G**; Giusti, MM. (April 2021). More efficient formation of more stable cyanidin-derived food colorants using 4-vinylphenol. Abstract/Poster/Sway presented at The Ohio State University College of Food, Agricultural, and Environmental Sciences Annual Research Conference.

Cheng, Y; **Miyagusuku-Cruzado, G**; Giusti, MM. (November 2020). Determination of the optimal molar ratio of cyanidin-derived anthocyanins: 4-vinylphenol for pyranoanthocyanin synthesis. Virtual presentation at the Autumn Undergraduate Research Festival at The Ohio State University.

Miyagusuku-Cruzado, G; García-Cano, I; Rocha-Mendoza, D; Jiménez-Flores, R; Giusti, MM. (June 2020). Decarboxylation of hydroxycinnamic acids by lactic acid bacteria isolated from dairy products. Virtual oral presentation at the American Dairy Science Association Annual Meeting. Awarded **2nd place** in the in the ADSA Dairy Foods Graduate Oral Competition.

Miyagusuku-Cruzado, G; García-Cano, I; Rocha-Mendoza, D; Jiménez-Flores, R; Giusti, MM. (April 2020). Improving the flavor of fermented foods: Biotransformation of hydroxycinnamic acids into volatile aroma compounds by lactic acid bacteria strains from dairy products. Poster presentation, The Ohio State University College of Food, Agricultural, and Environmental Sciences Annual Research Conference.

Miyagusuku-Cruzado, G; García-Cano, I; Rocha-Mendoza, D; Jiménez-Flores, R; Giusti, MM. (March 2020). Biotransformation of hydroxycinnamic acids into volatile aroma compounds by lactic acid bacteria strain isolated from dairy products. Poster presentation, Ohio Valley Institute of Food Technologists, West Chester, Ohio.

Miyagusuku-Cruzado, G; Jimenez-Flores, R; Giusti, MM. (June 2019). Study of the interaction between whey proteins and anthocyanins using fluorescence spectroscopy. Oral presentation, American Dairy Science Association Annual Meeting, Cincinnati, Ohio. Selected as **finalist** in the ADSA Dairy Foods Graduate Oral Competition.

Miyagusuku-Cruzado, G; Jimenez-Flores, R; Giusti, MM. (June 2019). Color enhancement of anthocyanin-colored model juices by whey protein addition. Oral presentation at the IFT Annual Meeting and Expo, New Orleans, Louisiana. Awarded **1st place** in the Food Chemistry Division Graduate Student Oral Competition.

Miyagusuku-Cruzado, G; Jimenez-Flores, R; Giusti, MM. (June 2019). Color enhancement of anthocyanin-colored model juices by whey protein addition. Poster presentation at the IFT Annual Meeting and Expo, New Orleans, Louisiana.

Miyagusuku-Cruzado, G; Jimenez-Flores, R; Giusti, MM. (April 2019). Enhancement of color intensity in anthocyanin-colored model juices due to interaction with whey proteins. Poster presentation at the OVIFT Spring Research Forum, Columbus, Ohio.

Miyagusuku-Cruzado, G; Jimenez-Flores, R; Giusti, MM. (June 2018). Whey proteins enhance color and stability of anthocyanin pigments. Poster presented at the ADSA (American Dairy Science Association) Annual Meeting, Knoxville, Tennessee. Awarded **1st place** in the Leprino Foods Graduate Student Poster Presentation Contest in Dairy Foods Research.

Miyagusuku-Cruzado, G; Jimenez-Flores, R; Giusti, MM. (March 2018). Color enhancement of anthocyanin pigments by whey proteins. Poster presented at the OVIFT Spring Research Forum, Columbus, Ohio.

Miyagusuku-Cruzado, G; Giusti, MM. (June 2017). Comparative study of the monomeric anthocyanin content, total phenolics, and polymeric color of three species of *Berberis* fruits. Poster presented at the IFT Annual Meeting and Expo, Las Vegas, Nevada.

Miyagusuku-Cruzado, G; Kono, M; Terahara, N; Matsui, T. (May 2015). 6-*O*-Caffeoylsophorose enhances glucose uptake in L6 cells by inducing GLUT4 translocation. Oral presentation at the 12th Asian Congress of Nutrition, Yokohama, Japan.

Miyagusuku-Cruzado, G; Kono, M; Terahara, N; Matsui, T. (October 2013). 6-*O*-Caffeoylsophorose enhances 2-NBDG uptake in L6 myotubes. Oral presentation at the 67th Annual Meeting of the Japanese Society of Nutrition and Food Science, Fukuoka, Japan.

Miyagusuku-Cruzado, G; Morales-Soriano, E; Ugas, R. (September 2012). Caracterización colorimétrica de 12 entradas de ají escabeche (*Capsicum baccatum* var. *pendulum*). Poster presentation at the 58th Annual Meeting of the Interamerican Society for Tropical Horticulture, Lima, Peru.

PRODUCT DEVELOPMENT COMPETITION

2018 Finalist in the New Product Competition organized by the National Dairy Council for the development of MooCakes. Team members: Zhou, Y; **Miyagusuku-Cruzado, G**; Sarantis, S; Yu, F; Zhu, X, Giusti, MM; and Rodríguez-Saona, LE.

LANGUAGES

- Spanish – Native language, fluent
- English – Fluent
- Japanese – Intermediate