

Curriculum Vitae

Carlos A. Campabadal

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Education

- **Ph.D., Agricultural and Biological Engineering** 12/2013
Purdue University, West Lafayette, IN
Dissertation: Ozonation Systems as Non-Chemical Alternative for Pest Control in Grain Storage; GPA 3.32/4.00;
- **MSc. Agricultural Engineering** 05/2005
University of Illinois, Urbana-Champaign, IL
Dissertation: Recovery of Water Soluble Proteins from Dry Milled Corn Germ; GPA 3.8/4.0
- **B.S. Mechanical Engineer** 05/2000
Universidad de Costa Rica, San José, Costa Rica; GPA 2.8/4.0

Professional Experience

- **International Grains Program Institute & Department of Grain Science and Industry – Kansas State University (Industry training institution)**
Manhattan, KS 02/2010 - Present
Appointment: Official: 95% outreach & 5% service. **Actual:** 60% outreach, 35% applied research (including international development) & 5% service
 - **Outreach Specialist in Grain Storage and Feed Manufacturing at the International Grains Program Institute (IGP Institute):**
 1. Coordination, development, implementation and facilitation of educational programs (short courses, workshops, trade teams' visits, and distance education courses) to enhance the market promotion, consumption and utilization of U.S. cereal grains, oilseeds and their value-added products for the global grain and feed industry both in international and domestic locations.
 2. Provide continuing education programming and technical assistance to IGP Institute's stakeholders in the areas of feed manufacturing, animal nutrition, grain and ingredient quality, grain-based food and feed safety, and grain handling.
 3. Development and management of the Spanish-speaking outreach program of IGP Institute for all curricula areas.
 4. Serve as a liaison with the strategic partners such as the Kansas Soybean Commission, U.S. Grains Council, U.S. Soybean Export Council, American Feed Industry Association, Kansas Grain & Feed Association, and Grain and Elevator Processing Society including attending national and international conferences and stakeholder meetings.
 - **Extension Leader in Grain Quality Management and Feed Manufacturing for the Department of Grain Science and Industry (GSI):**
 1. Responsibilities in extension/outreach assistance and collaboration in research for stored product protection, grain quality management and feed manufacturing for the Department of Grain Science and Industry.
 2. Liaison between GSI faculty and Kansas State Research and Extension (KSRE) staff and faculty.

- **Faculty and Instructor of Feed Technology and Grain Storage and Quality Management Research Group at the Department of Grain Science and Industry:**
 1. Leader of the Grain Storage and Quality Management Research Group with research activities related to postharvest storage and quality management of grain and oilseeds.
 2. Member of the Feed Technology group with undergraduate teaching as needed.
 3. Support when needed related programmatic efforts such as student recruitment, curriculum development, and service on GSI departmental committees.

- **Faculty member of the USAID Reduction of Postharvest Loss Innovation Lab (PHLI Lab):**
 1. Serve as in-country leader in Guatemala for the development & management of the PHLI Lab projects.
 2. Serve as Co-PI for mycotoxin assessment projects in Honduras.
 3. Serve as a team member of the Drying & Storage Team for all the countries involved in the USAID PHLI Lab projects with the duties to perform research work on the choosing, optimization and building of crop dryers.
 4. Serve as an active member for the improvement of the self-sustainability of USAID PHLI Lab by continuing looking for extra funding opportunities within the USAID framework and PHLI mission.

- **Campabadal and Associates Consulting (Private consulting company)**
San José, Costa Rica 8/2003 – Present

- **Technical Consultant & Translator in Feed Manufacturing and Grain Storage:**
 1. Technical consultant and presenter for the U.S. Soybean Export Council, U.S. Wheat Associates, and U.S. Grains Council in more than 60 short courses, trainings, and technical visits in Spanish and English languages to feed mills, flour mills, and grain storage facilities in more than 20 different countries in Latin America, Southeast Asia and North Africa.
 2. Technical consultant in feed manufacturing and commodity storage for the major integrated Latin America poultry and swine companies, ingredient suppliers (Cargill, DSM, Novus, etc) and other organizations (Decision Innovation Solutions and Stragos Dominican Republic).
 3. Technical translator for English to Spanish languages in agricultural related topics (mainly in grain processing and storage topics).

- **Campabadal y Asociados S.A. (Family own agricultural production company)**
San José, Costa Rica 05/1995 – Present

- Board Member:**
 1. Technical and management support for feed manufacturing, swine, dairy, and beef cattle operations.
 2. Provide technical expertise in agricultural engineering and maintenance.

- **Dept. of Agricultural and Biological Engineering - Purdue University**
West Lafayette, IN 01/2006 – 12/2009

- Research Associate:**
 1. Performed main research project in postharvest technology for non-chemical alternatives for pest control.
 2. Development of research projects and extension work in grain quality, storage and drying.
 3. Collaborated in extension work in grain quality as part of the Postharvest Research and Education Center (PHERC).

- **Dept. of Agricultural Engineering – University of Illinois**
Urbana, IL 08/2002 – 12/2005

Research Assistant:

1. Performed main research project in the recovery of proteins from co-products from corn milling processing.
2. Collaborated in several research projects of value-added co-products from corn milling and masa production.
3. Teaching assistant in several undergraduate and graduate level courses.

- **Proveedora de Concentrados (Commercial feed mill)**
Alajuela, Costa Rica 02/1999 – 08/2002

Process and Maintenance Engineer:

1. Performed tasks of operation, quality control, and sales focusing on swine and dairy mash feed and aquaculture extruded feed.
2. Developed proactive maintenance program for entire feed mill (mash and extrusion production lines).
3. Designed new boiler system, in-house construction of rotary dryer and extrusion line.

Research Experience

- **International Grains Program Institute, Manhattan, KS** 02/2010 – Present

Research areas: grain quality management, feed manufacturing & international development work for postharvest reduction

- Work on international development by developing a mycotoxin assessment in Honduras as Co-PI as part of the USAID Reduction Postharvest of Losses Innovation Lab of Kansas State University with the goal of quantifying the current level of mycotoxins on local crops and developing potential mitigation strategies. Current work in progress since October 2016.
- Work on international development by developing scale-up mechanization of agriculture equipment focusing on the postharvest of grains mainly in Ethiopia (in-country leader) and other Sub-Saharan African countries as part of the Appropriate Scale Mechanization Consortium (ASMC lead by the University of Illinois) of the Sustainable Intensification Innovation Lab (SIIL) of Kansas State University with the goal of reducing malnutrition in the local population. Current work in progress since October 2015.
- Work on international development by assisting in the re-development of the Ghanaian poultry industry by developing their feed manufacturing techniques and improving their postharvest practices with the goal of increasing protein availability as food source and developing a bigger market for U.S. soybeans and its co-products as ingredients for the poultry feed in partnership with the World Initiative of Soy in Human Health (WISHH) and the American Soybean Association (ASA) funded by USDA. Current work in progress since October 2015.
- Work on international development by studying and development reduction techniques of postharvest losses through grain quality management (grain drying and storage) as member and in-country leader (Guatemala) and Co-PI since 2017 of the USAID Reduction Postharvest of Losses Innovation Lab of Kansas State University with the goal of reducing malnutrition in the local population. Current work in progress since January 2014.
- Study and implement different grain quality management strategies for storing U.S. corn in tropical weather locations (Malaysia) and its effect on usage as feed on poultry performance. Also, perform analysis on the quality and nutritional composition of Broken Corn and Foreign Material from U.S. corn at destination. Project funded by the U.S. Grains Council. Current work in progress.

- Study the usage of grain chilling technology to cool down wheat during storage in Kansas weather conditions and its effect on grain quality, mold reduction, and insect mortality. Project funded by the Kansas Crop Improvement Agency (KCIA). Completed in October 2017.
- FEEDing Pakistan USDA funded project that focus on developing the aquaculture production industry in Pakistan with the goal of finding another protein availability as food source for the Pakistani population and develop the a market for U.S. soybean and its co-products for its usage in the aquaculture feed. First phase completed in April 2014. Second phase completed in January 2016
- Initial management, installation of equipment, and monitoring of the research project: "Evaluation of grain monitoring cables during low-temperature drying and aeration". Collaboration with Kansas State University (Manhattan, KS), OPI Systems (Calgary, Canada), and USDA-CGHAR (Manhattan, KS). No publishing of research due to proprietary terms of project. Completed in 2011.
- Performed research project to study of the usage of silobags for grain storage in Midwestern conditions. Collaboration with Kansas Wheat Commission (Manhattan, KS), Manhattan Farmers' Cooperative (Manhattan, KS), Chapman Farmers' Cooperative (Chapman, KS), Akron (Canada), and Ipesa (Argentina). Completed in December 2010. Currently working on extension publication under Kansas State University.
- Working on an economic model and decision-making spreadsheet for farmers and grain processors for utilization of the optimal ozonation system for pest control, molds and mycotoxins reduction, and grain off-odor control. Current work in progress.
- Host of 2 visiting researchers from Brazil at the Department of Grain Science and Industry of KSU in 2015-2016.

- **Purdue University, West Lafayette, IN**

01/2006 – 12/2009

Research areas: grain quality, storage, drying, fumigation, and biomass preparation

- Conducted on-farm experiments to investigate an in-bin continuous flow dryeration to analyze and quantify the benefits of the system in terms of drying energy efficiency and capacity. Collaboration with Diener Farms (Reynolds, IN) and Shivvers Manufacturing, Inc (Corydon, IA) in 2008 and 2009.
- Developed of a continuous ozonation system using a modified screw conveyor for ozonation of grain at higher rates and concentrations as a non-chemical alternative for pest control, and molds and mycotoxins reductions. Collaboration with Lynntech (College Station, TX) and O3.Co. (Aberdeen, ID) in 2009. Published in Journal of Stored Product Protection Research.
- Development of a semi-continuous ozonation system for a faster treatment of grain during storage for mold reduction using a modified low temperature in-bin drying system (Shivvers system). Collaboration with O3Co. (Aberdeen, ID) in 2008 and 2009. Currently working in draft for publication.
- Development of fixed bed ozonation systems for insect mortality in grain storage and analysis of the effects on grain quality. Collaboration with O3Co. (Aberdeen, ID) in 2006 to 2009. Published in Journal of Applied Engineering in Agriculture.
- Collaborated in the installation of equipment and setup of trials of the research project of CO2 monitors for early detection of grain spoilage during storage in 2009.
- Collaborated in the installation of equipment and setup of trials of research projects related to fumigation of flour mills with gas monitoring and control in 2008.
- Collaborated in the research project of "Corn and Corn Cob Mixture Biomass Conversion into Ethanol" at the first stage of low temperature drying of corn and corn-cob mixture for biomass preparation using grain seed dryers with propane burners in 2007.
- Collaborated in the analysis and documentation of the research project: Modeling Airflow for Outdoor Grain Piles. Presented work in ASABE and NC-213 Annual Meetings in 2006. Draft document was performed for publication, but not published.

- **University of Illinois, Urbana, IL** 08/2002 – 12/2005

Research focus: recovery of value-added co-products from corn milling and seed drying

- Developed a foam fractionation process to recover value-added proteins from dry milled corn germ. Published in Master's Degree Thesis in 2005.
- Developed a process to recover corn fiber by a brushing system using soaked corn at different temperatures without affecting the other constituents in 2005. Research work was not published due to proprietary terms.
- Developed an on-farm drying method for seed corn to analyzed moisture content for quality conservation in 2004 and 2005. Research work presented at AACC Annual Meeting 2005.
- Collaborated in the research project of for the preparation of corn masa using dry milled co-products for tortilla production. Collaboration with State University of Sinaloa (Sinaloa, México) in 2004.

Teaching Experience

- **Kansas State University, Manhattan, KS** 10/2013 – present
Department of Grain Science and Industry
 - Co-Instructor of course GRSC 510 Feed Technology I (Fall 2012)
 - Co-Instructor of course GRSC 512 Feed Technology II (Spring 2013)
 - Laboratory Instructor of course GRSC 513 Laboratory of Feed Technology II (Spring 2013)
 - Guest lecturer in course GRSC 510 Feed Technology I (Fall 2014)
 - Guest lecturer in course GRSC 310 Materials Handling (Spring 2015)
 - Guest lecturer in course GRSC 512 Feed Technology II (Spring 2016 & 2017)
 - Guest lecturer in course GRSC 101 Introduction to Grain Science (Fall 2017)
- **University of Illinois, Urbana, IL** 08/2003 – 12/2005
Department of Agricultural and Biological Engineering
 - Laboratory Teacher Assistant for Technical System Management in Grain Drying & Storage Systems TSM-381 (Fall 2003, 2005).
 - Teaching Assistant for Technical System Management in Agriculture TSM-100 (Fall 2004).
 - Teaching Assistant for Agr. & Bio Engineering II ABE 222 (Spring 2003 and 2004).
- **Universidad de Costa Rica** San José, Costa Rica 1/2000 – 5/2000
Department of Physics and Mathematics
 - Teaching Assistant and Course Professor in Laboratory of Physics for Life Science I (Spring 2000).
 Department of Mechanical Engineering
 - Refrigeration and Air Condition Systems (Spring 2000).

Outreach Experience

- Participated as technical presenter in more than 60 international short courses (professional development) in more than 21 different countries since 2008 focusing on different topics of the areas of grain quality management, U.S. grain export system & standards, and feed manufacturing for the U.S. Export Council (USSEC), U.S. Grains Council (USGC), U.S. Wheat Associates (USW), DSM, Novus International, Neogen, and Fecocrop (Paraguay) (Specific topics and dates available on request).
- Participated as technical presenter and course manager in more than 102 short courses (professional development) at the International Grains Program Institute (IGP) of Kansas State University since 2010

with participants domestic and international (from more than 45 different countries) focusing on different topics of the areas of grain quality management, U.S. grain export system & standards, and feed manufacturing. Among the organizations involved are: IGP – Kansas State University, USSEC, USGC, American Feed Industry Association (AFIA), National Grain & Feed Association (NGFA), Grain Elevator and Processing Society (GEAPS) and USDA Cochran Training Programs (Specific topics and dates available on request).

- Developed distance education lectures for professional development on the following courses:

In 2014:

- GEAPS 620: Grain Receiving, Cleaning and Conditioning
 1. Lecture 3: Wheat Storage and Handling
 2. Lecture 4: Wheat Storage Principles

In 2013:

- GEAPS 544: Preventing And Responding to Grain-Dust Explosions:
 1. Lecture 5: How Regulations Help Prevent Grain Dust Explosions
 2. Lecture 8: How Can The Design Of Your Equipment And The Facility Help Limit Grain Dust Explosions
- GEAPS 555: Advanced and Preventive Maintenance for Grain Facilities: Conveyance Equipment
 1. Lecture 3: Bucket Elevator Options and Functions

In 2012:

- OSHA Grain Dust Explosion Prevention Worker Training Modules: 3 and 5 (English) and Modules: 1 to 5 (Spanish).

List of Publications

- **Peer Reviewed Scientific Articles (Published):**

1. Mendoza, R., Sabillón, L., Martinez, W., **Campabadal, C.A.**, Hallen-Adams, H., and Bianchini, A. 2017. Traditional Maize Post-Harvest Management Practices Amongst Smallholder Farmers In The Western Highlands Of Guatemala. *Journal of Stored Product Protection Research* 71(1) 14-21.
2. Corradi, P. C., Channaiah, L. H., **Campabadal, C.A.**, and Maier, D. E. 2015. Distribution of aflatoxins and fumonisins levels in corn fractions and in the feed processing. *Journal of Food Processing Engineering*. doi: 10.1111/jfpe.12212
3. **Campabadal, C. A.**, D. E. Maier, and L. J. Mason. 2013. Efficacy of fixed bed ozonation to control insects in stored bulk grain. *Applied Engineering in Agriculture*. 29(5): 1- 12.
4. McDonough, M.X. **Campabadal, C.A.**, Mason, L.J., Maier, D.E., Denvir, A., and Woloshuk, C. 2011. Ozone application in a modified screw conveyor to treat grain for insects' pests, fungal contaminants, and mycotoxins. *Journal of Stored Product Protection Research*. 47(3): 249-254.

- **Peer Reviewed Scientific Articles (In Preparation):**

1. **Campabadal, C.A.** and D.E. Maier. 2017. Semi-Continuous Counterflow Ozonation Treatment Systems. *Applied Engineering in Agriculture*. (In Revision).
2. Morales-Quiros, A., D. E. Maier, Lazzari, F., Lazzari, S., Phillips, T.W., and **Campabadal, C.A.** 2019. Chilled Aeration to Control Pests and Maintain Grain Quality during the Summer Storage of Wheat in North Central Region of Kansas. *Applied Engineering in Agriculture*. (Submitted for publication).

3. Morales-Quiros, A., Martinez, W., Mendoza, R., Bianchini, A., and **Campabadal, C. A.** 2019. Improved Maize Drying and Storage Technologies for Smallholder Farmers of the Western Highlands of Guatemala. (In review before submission to Journal of Stored Product Protection Research).
- **Book Chapters:**
 1. **Campabadal, C. A.** and Maier, D. E. 2014. Section 2: Steam Generation, Control, and Quality for Feed Manufacturing. In Chapter 8: Conditioning of Feed Pelleting Reference Guide. Watt Publishing, 1 – 9. Available at: www.wattnet.com.
 2. **Campabadal, C. A.** and O’Keefe, T. 2015. Storage and Handling of Feeds for Fish and Shrimp. In: Feed and Feeding Practices in Aquaculture. Ed. Allen Davis. Woodhead Publishing Limited, Cambridge, UK.
 3. **Campabadal, C. A.** 2017. Soybean Final Uses: Process and Utilization. In: Soybean Production Handbook. Ed: Ciampitti I. and Peterson, D. KSRE, Manhattan, KS (In writing and editing process).
 - **Technical Articles:**
 1. **Campabadal, C.A.** and Morales-Quiros, A. Buenas Prácticas de Manufactura, Aplicadas para un Optimo Almacenamiento de Frijol y Pasta de Soya de los Estados Unidos en las Fábricas de Alimentos para Animales. USSEC. 2017. <http://agronegociosinternacionales.com.mx/ussec/index.php/en/home-es-es/referencias-sobre-ventajas-de-la-soya-de-eua>
 2. **Campabadal, C.A.** Using Ozone to Treat Grain. Milling Journal. Third Quarter. 2012.
 - **Editor Reviewed Manuscripts and Conference Proceedings, and Non-Peer Reviewed Articles Total: 16 (Last 6 years, previous years on request):**
 1. Morales-Quiros, A., **Campabadal, C. A.**, Lawrence, J., Plumier, B, and Maier, D. Technical and Economic Evaluation of Ambient and Chilled Aeration Strategies to Maintain the Quality of Paddy Rice During Storage in a Tropical Climate. In Proceedings of the 12th International Working Conference on Stored Product Protection 2018. Berlin, Germany.
 2. Morales-Quiros, A., **Campabadal, C. A.**, Lazzari, S., Lazzari, F., Maier, D., and Phillips, T. Chilled Aeration to Control Pests and Maintain Grain Quality During the Summer Storage of Wheat in North Central Region of Kansas. In Proceedings of the 12th International Working Conference on Stored Product Protection 2018. Berlin, Germany.
 3. **Campabadal, C. A.** and Morales-Quiros, A. Quality control in feed manufacturing. Pending publication as online article at: www.ussec.org
 4. **Campabadal, C. A.** and Morales-Quiros, A. Soybean and soybean meal storage in tropical weather locations. Online article at: www.ussec.org
 5. Morales-Quiros, A., **Campabadal, C. A.**, Maier, D.E., Lazzari, S., Lazzari, F., Cook, S. and Phillips, T. Chilling Aeration to Control Pests and Maintain Grain Quality during In-Bin Storage of Wheat in Kansas. In Proceedings of 2016 ASABE Annual Meeting. Orlando, FL.
 6. **Campabadal, C. A.**, Bianchini, A, Sabillon, L., Reddy, V., Ellis, J., and Maier, D.E. Improving food security and food safety of smallholder farmers in the Western Highlands of Guatemala through reduction of post-harvest losses in corn. In Proceedings of the 11th International Working Conference on Stored Product Protection 2014. Chiang Mai, Thailand.
 7. Cardoso, L., Bartosik, R., **Campabadal, C.**, and De La Torre, D. Air-tightness Level in Hermetic Plastic bags (Silo-Bags) for different Storage Conditions. Navarro S, Banks HJ, Jayas DS, Bell CH, Noyes RT, Ferizli AG, Emekci M, Isikber AA, Alagusundaram K, [Eds.] Proc 9th. Int. Conf. on Controlled Atmosphere and Fumigation in Stored Products, Antalya, Turkey. 15 – 19 October 2012, ARBER Professional Congress Services, Turkey pp: 583-589.

8. Subramanyam B., Channaiah L.H., **Campabadal C.**, Lawrence J., Cardoso L., and Maier D.E. Evaluation of silo bags for temporary storage of wheat. In: Navarro S, Banks HJ, Jayas DS, Bell CH, Noyes RT, Ferizli AG, Emekci M, Isikber AA, Alagusundaram K, [Eds.] Proc 9th. Int. Conf. on Controlled Atmosphere and Fumigation in Stored Products, Antalya, Turkey. 15 – 19 October 2012, ARBER Professional Congress Services, Turkey pp: 535-541.
 9. Channaiah, L.H., **Campabadal C.**, Maier D.E., and Bh. Subramanyam. Recent advances in stored-grain pest management technologies. In: Patil RT (Ed.) Proceedings of the 46th Indian Society for Agricultural Engineers Executive Committee Meeting and International Symposium on Grain Storage, Pantnagar, India. 27-29 February 2012, Pp: 151-154.
- **Scientific and Technical Conference Presentations Total: 50 (Last 5 years, previous years on request):**
 1. Technical presentations at the KGFA 2018 7B/4 1A Recertification Program in Wichita, KS on Management of Pests in Stored Grain using Non-Chemical Alternatives and on Pest Control Management in Grain Facilities (November, 2018).
 2. Technical presentation at the Engineering Session of the 12th International Working Conference on Stored Product Protection 2018. Berlin, Germany on: Technical and Economic Evaluation of Ambient and Chilled Aeration Strategies to Maintain the Quality of Paddy Rice During Storage in a Tropical Climate (October, 2018).
 3. Technical presentation at the 12th International Working Conference on Stored Product Protection 2018. Berlin, Germany on: Chilled Aeration to Control Pests and Maintain Grain Quality During the Summer Storage of Wheat in North Central Region of Kansas (October, 2018).
 4. Technical presentations at the USSEC Implementation of Good Manufacturing Practices in Feed Mills Technical Seminar in the Dominican Republic on several topics (October, 2018).
 5. Technical presentations at the USGC Export Exchange for the Mexican Trade Team in Minneapolis, MN on the U.S. Grain Production and Export System and on Grain Quality Management (October, 2018).
 6. Technical presentation at the Appropriate Scale Mechanization Technical Session of the American Society of Agricultural and Biological Engineers Annual Meeting in Detroit on: Appropriate Scale Postharvest Storage Systems (July, 2018).
 7. Technical presentation at the Alabama Grain and Feed Association Nutrition Seminar on: Controlling Mycotoxins in Feed Mills (April, 2018).
 8. Technical presentations as main speaker in the K-State Grain Storage Management, Safety and Economics Seminar in Leoti, KS (April, 2018).
 9. Technical presentation at the 4th Annual Technical Symposium of the Caribbean Poultry Association in Bridgetown, Barbados: Grains Handling, Storage & Quality of Feed Ingredients Focusing on SBM (October, 2017).
 10. Technical presentation at the 13th Central American and Caribbean Swine Conference in Panama City, Panama: Quality Control in Feed Manufacturing (September, 2017).
 11. Technical presentation at the USGC Regional Animal Nutrition Conference in Lima, Peru: Best Practices for Grain Storage (August, 2017).
 12. Technical presentation at the 1st Agricultural Congress Costa Rica: Grain Storage and Safety (June, 2017).
 13. Project presentation at the USAID Feed the Future Innovation Lab for the Reduction of Postharvest Loss 2017 Annual Meeting: Project Update on Guatemala (April, 2017).

14. Technical presentations at the 11th Asia Grain Transportation Conference in Ho Chi Minh City, Vietnam: Feed Manufacturing and Grain Storage in the Tropics and From Field to Feed: Quality Control in Grain Transportation, Storage, and Manufacturing Process (March, 2017).
15. Technical presentation at the Seaboard Feed Conference in Atlanta, GA: Managing Procurement and Storage + Cost Management through Lean Methods (January, 2017).
16. Technical presentations (ten in grain storage and drying related topics) at the Kansas State University-Paraguay Grain Storage and Pest Control Technical Seminar (November, 2016).
17. Technical presentation at the ASABE Engineering and Technology Innovation for Global Food Security Conference in Stellenbosch, South Africa: Improving Food Security and Food Safety of Smallholder Farmers in the Western Highlands of Guatemala Through Reduction of Post-Harvest Losses in Maize (October, 2016).
18. Technical presentation at the FIGAP 2016 School of Production (Latin American feed expo) in Guadalajara, Mexico: Worker Safety in Feed Mills (October, 2016).
19. Technical presentation at the 4th International Workshop on Technology and Best Practices for Animal Feed Manufacturing in Guadalajara, Mexico: Good Practices in Feed Manufacturing and Storage of Grains and Oilseeds (June, 2016).
20. Technical presentation at the 6th Pet Food Mexico Forum in Guadalajara, Mexico: Handling, Storage, and Conservation of Soybean Meal in Feed Mills (June, 2016).
21. Project presentation at the USAID Feed the Future Innovation Lab for the Reduction of Postharvest Loss 2016 Annual Meeting: Project Update on Guatemala (May, 2016).
22. Technical presentation at the 39th Annual IAOM Latin America District Conference in Panama City, Panama: Storage Considerations for Wheat in Tropical Conditions (February, 2016).
23. Technical presentation at the 2016 Ag Week Agronomy/Soybean Day Meeting in Harrington, Delaware: Grain Storage Concerns and Considerations (January, 2016).
24. Technical presentation at the 2016 Ag Week Wheat Quality Meeting in Harrington, Delaware: Sampling techniques and grain storage for minimizing grain quality issues (January, 2016).
25. Technical presentation at the AMEPA 2015 Annual Meeting in Queretaro, Mexico: Good Practices in Feed Manufacturing and Storage of Grains and Oilseeds (December, 2015).
26. Technical presentation at the Annual Neogen Technical Conference in Guadalajara, México: Mold & Mycotoxin Control in Feed Manufacturing Facilities (May, 2015).
27. Technical presentation at Latin Zoo Conference in México City, México: Mycotoxin Control in Pet Food (May, 2015).
28. Research seminar at University of Malaya in Kuala Lumpur, Malaysia: Grain Storage in the Tropics (November, 2014).
29. Technical Presentation at International Working Conference on Stored Product Protection in Chiang Mai, Thailand: Improving Food Security and Food Safety of Smallholders Farmers in the Western Highlands of Guatemala through Reduction on Post-Harvest Losses of Corn (November, 2014).
30. Technical presentation at FIGAP 2014 School of Production (Latin American feed expo) in Guadalajara, Mexico: Control and Reduction of Molds and Mycotoxins in Feed Manufacturing (October, 2014).
31. Research seminar at University of Viscosa in Viscosa, Brazil: Ozonation Systems as a Non-Chemical Alternative for Stored Grain (June, 2014).
32. Technical presentation at the Costa Rican Poultry Association Bi-Annual Meeting in San Jose, Costa Rica: Practical Procedures for the Storage of Feed Ingredients (May, 2014).

33. Technical presentations at the 8th Asia Grain Transportation Conference in Kuala Lumpur, Malaysia: Quality Control: Handling and Storage of Grain in Tropical Countries Part 1 and Part 2 (March, 2014).
 34. Technical presentation at FEEDing Pakistan Aquaculture Conference in Lahore, Pakistan: The Handling of Manufactured Fish Feed (April, 2014).
- **Reviewer of Scientific Journal Articles (Names of the articles on request: Total 11):**
 1. Journal of Stored Product Protection Research September 2010 (2 articles), February 2013, December 2014, May 2016, and January 2018 (in reviewing process).
 2. Applied Engineering (ASABE) November 2011, June 2012, January 2016, and June 2017.
 3. Ozone Engineering July 2013.
 - **Reviewer of Scientific and Technical Book Chapters:**
 1. Reviewer on Chapter on: Steam Treatment of Cellulosic Biomass for Hydrolyzation and Pelletization on book: biomass Preprocessing for Biofuels Production: Mechanical, Chemical, and Thermal Methods. Editors: Jaya Shankar and Richard Hess. CRC Press. (In Reviewing)
 2. Manager for Technical Book: Practical Baking with U.S. Soybean Oil. U.S. Soybean Export Council. (English and Spanish versions). USSEC Americas. Guadalajara, Jalisco, Mexico, 2018
 3. Editor for Chapter 3: Handling on book: Grain Drying, Handling and Storage Handbook (MWPS-13) 3rd Edition. Midwest Planning Services, Iowa State University, Ames, IA, 2017.
 4. Editor for Chapter V on: Feeding Practices and Chapter VII on Feed Technology on book: Aquaculture Handbook Fish Farming and Nutrition in Pakistan. SoyPak (ASA/WISHH), Karachi, Pakistan, 2015.

Grants

- **Research Grants (Last 5 years, previous years on request):**
 1. **Campabadal, Carlos (PI)**, U.S. Grains Council, \$20,000, “U.S. Corn Storage in Tropical Weather Location.” (Lead researcher and project manager, 2018-2019).
 2. Bianchini, Andreia, (PI) Harvey, Jagger, **Campabadal, Carlos (Co-PI)**, and Leslie, John. USAID Reduction of Postharvest Loss Innovation Lab (from USAID Honduras Mission), \$650,000, “Mycotoxin Assessment on the Dry Corridor of Honduras” (Co-PI, postharvest expert for the project 2016-2017).
 3. Maier, Dirk (PI), **Campabadal, Carlos (Co-PI)**, McNeil, Samuel, Armstrong, Paul, Ambrose, Kingsly, and Opit, George, US Department of Agriculture – Foreign Agricultural Service, \$40,000, “SCRIP Research Associate Award Ghana Solar Biomass Hybrid Dryer.” (Postharvest researcher, 2016-2018).
 4. **Campabadal, Carlos (PI)** and Phillips, Thomas, Kansas Crop Improvement Association, \$10,000, “Demonstrating a New Stored Wheat Cooling Technology for Improved Pest Control during On-Farm Storage.” Kansas Crop Improvement Association. (Lead researcher and project manager, 2016-2017).
 5. **Campabadal, Carlos (PI)** and Schwab, B., University of Illinois at Urbana-Champaign (from USAID SIIL), \$319,812, “Appropriate-Scale Mechanization Consortium for Sustainable Intensification.” (PI for Kansas State University, postharvest expert for the project, 2016 to 2019).

6. Stark, Charles (PI), **Campabadal, Carlos (Co-PI)**, and Jones, Cassandra, American Soybean Association (from USDA FAS Food for Progress, 10.606), \$1,993,000, “AMPLIFIES Ghana: Assisting Management in the Poultry and Layer Industries by Feed Improvement and Efficiency Strategies in Ghana.” (C-Lead PI for Kansas State University, lead on postharvest work and collaborator for feed manufacturing work, 2015 to 2019).
 7. Maier, Dirk, Phillips, Thomas, **Campabadal, Carlos (Co-PI)**, and Ambrose, Kingsly, Kansas Crop Improvement Association, \$5,000, “Demonstrating a New Stored Wheat Cooling Technology for Improved Pest Control during On-Farm Storage.” Kansas Crop Improvement Association. (Lead researcher and project manager, 2015).
 8. Bianchini, Andrea UNL, Hallen-Adams, Heather UNL and **Campabadal, Carlos (Co-PI)**, US Department of Agriculture, \$39,050, “SCRIP Research Associate Award: From the “Milpas” to the market: a feasibility study on the use of metal silos for safer and better storage of Guatemalan native corn.” (Postharvest researcher, 2014 to 2015).
 9. Harvey, Jagger, (PI), **Campabadal, Carlos (Co-PI)**, Ulmer, Jonathan, Subramanyam, Bhadriraju, Lilja, Nina, Leslie, John, and Lindshield, Brian. USAID Feed the Future Innovation Lab for the Reduction of Postharvest Loss. **\$4,068,796** with cost share to \$8,215,516 (In-country operations and budget manager for Guatemala from 2014 to 2018 for a total of **\$821,174**).
 10. **Campabadal, Carlos (Co-Lead PI)**, Ambrose, Kingsly, Maier, Dirk, and Miller, Brandi. \$104,901, “Combustible Dust Hazards in Grain Handling Facilities: Prevention, Precaution, Awareness, and Creation.” U.S. Department of Labor. (Research and training on grain dust explosion prevention).
 11. Maier, Dirk, (PI) FEEDing Pakistan. \$70,000 for each of the 2 years (Manager of the project and lead instructor for 2013 to 2014).
 12. Ambrose, Kingsly, **Campabadal, Carlos (Co-PI)**, McKinney, Leland, and Miller, Brandi. \$120,000, “Training on advanced methods of grain dust control within the grain handling and processing industry.” U.S. Department of Labor. (Co-Lead PI since 2015 to conduct research work and training on grain dust control from 2012 to 2013).
- **Extension and Outreach (Last 5 years, previous years on request):**
 1. **Campabadal, Carlos (PI)** and Thiele, Shawn. USDA Cochran Program for Vietnam – Sorghum Utilization Risk Management for Grains and Oilseeds, \$40,925.03, “Service Agreement 2018.” (Lead contact and manager).
 2. **Campabadal, Carlos (PI)** and Thiele, Shawn. USDA Cochran Program for Cambodia, Vietnam, and Malaysia – Quality Standards and Utilization of U.S. Feed Ingredients, \$63,442.76, “Service Agreement 2018.” (Lead contact and manager).
 3. Smith, Gordon, **Campabadal, Carlos (Co-PI)**, and Thiele, Shawn. Kansas Grain Sorghum Commission, \$20,000, "Market Development Grant - International Grains Program 2018."
 4. Smith, Gordon, Campabadal, Carlos (Co-PI), Thiele, Shawn, and O'Neil III, Howard J., Kansas Corn Commission, \$80,000, "Market Development Grant - International Grains Program Support Project 2018."
 5. Smith, Gordon, **Campabadal, Carlos (Co-PI)**, Thiele, Shawn, and O'Neil III, Howard J. Kansas Soybean Commission, \$120,000, "Market Development Grant - International Grains Program 2018."
 6. Campabadal, Carlos (PI), Howard J, Thiele, Shawn, Paulk, Chad, and Stark, Charles. Middle East and North Africa Feed Manufacturing Training. USSEC, \$20,000, "Service Agreement 2018." (Lead contact and manager).

7. **Campabadal, Carlos (PI)** and Thiele, Shawn, Paulk. Animal Production Educational Assistance (RAPCO Feed Manufacturing Training). USSEC, \$68,000, "Service Agreement 2018." (Lead contact and manager).
8. **Campabadal, Carlos (PI)** and Thiele, Shawn. Latin America Animal Production Training Program (RAPCO Swine Nutrition Training). USSEC, \$47,500, "Service Agreement 2018." (Lead contact and manager).
9. **Campabadal, Carlos (PI)** and Thiele, Shawn. Latin America Animal Production Training Program (RAPCO Swine Welfare Training). USSEC, \$30,000, "Service Agreement 2018." (Lead contact and manager).
10. **Campabadal, Carlos (PI)** and Thiele, Shawn. China Feed Manufacturing. USSEC, \$17,000, "Service Agreement 2018." (Lead contact and manager).
11. **Campabadal, Carlos (PI)** and Thiele, Shawn. Oilseed Purchasing Tools – Latin America. USSEC, \$28,600, "Service Agreement 2018." (Lead contact and manager).
12. Smith, Gordon, Campabadal, Carlos (Co-PI), Thiele, Shawn, and O'Neil III, Howard J., Kansas Wheat Commission, \$100,000, "Market Development Grant - International Grains Program Support Project 2018."
13. Aldrich, Greg, **Campabadal, Carlos (Co-PI)**, and Thiele, Shawn. Commercial Pet Food Industry for Veterinary Clinical Nutritionists. Hills Pet Nutrition Inc. \$34,894. "Service Agreement 2018."
14. Smith, Gordon, **Campabadal, Carlos (Co-PI)**, Miller, Brandi, Thiele, Shawn, and O'Neil III, Howard J., Kansas Wheat Commission, \$100,000, "Market Development Grant - International Grains Program Support Project 2017."
15. **Campabadal, Carlos (PI)**, Miller, Brandi, O'Neil III, Howard J, Stark, Charles, and Thiele, Shawn. Poultry and Swine Short Course - Japan. USSEC, \$40,760, "Service Agreement 2018." (Lead contact and manager)
16. Smith, Gordon, **Campabadal, Carlos (Co-PI)**, Miller, Brandi, and O'Neil III, Howard J., Kansas Corn Commission, \$80,000, "Market Development Grant - International Grains Program Support Project 2018."
17. **Campabadal, Carlos (PI)**, Thiele, Shawn, Miller, Brandi, and O'Neil III, Howard J. USDA Cochran Program for Egypt – Risk Management for Grains and Oilseeds, \$51,959.62, "Service Agreement 2017."
18. Smith, Gordon, **Campabadal, Carlos (Co-PI)**, Miller, Brandi, and O'Neil III, Howard J., Kansas Grain Sorghum Commission, \$30,000, "Market Development Grant - International Grains Program 2017."
19. Smith, Gordon, **Campabadal, Carlos (Co-PI)**, Miller, Brandi, and O'Neil III, Howard J., Kansas Corn Commission, \$75,000, "Market Development Grant - International Grains Program Support Project 2017."
20. Smith, Gordon, **Campabadal, Carlos (Co-PI)**, Miller, Brandi, Thiele, Shawn, and O'Neil III, Howard J. Kansas Soybean Commission, \$100,000, "Market Development Grant - International Grains Program 2017."
21. O'Neil III, Howard J, **Campabadal, Carlos (Co-PI)**, Ciampitti, Ignacio, Paulk, Chad, and Alavi, Sajid. U.S. Agribusiness Training Program. USSEC, \$36,100, "Service Agreement 2017".
22. **Campabadal, Carlos (PI)**, Miller, Brandi, O'Neil III, Howard J, Thiele, Shawn, Paulk, Chad, and Stark, Charles. Middle East and North Africa Feed Manufacturing Training. USSEC, \$21,000, "Service Agreement 2017." (Lead contact and manager).

23. **Campabadal, Carlos (PI)**, Miller, Brandi, O'Neil III, Howard J, Thiele, Shawn, Paulk, Chad, and Stark, Charles. Animal Production Educational Assistance (RAPCO Feed Manufacturing Training). USSEC, \$68,000, "Service Agreement 2017." (Lead contact and manager).
24. Thiele, Shawn, **Campabadal, Carlos (Co-PI)**, Miller, Brandi, and O'Neil III, Howard J. USDA Cochran Program for Ethiopia – Introduction to U.S. Wheat Quality & Grading, \$42,067.57. "Service Agreement 2017."
25. **Campabadal, Carlos (PI)**, Miller, Brandi, Thiele, Shawn, Brouk, Micheal, Bradford, Barry, and O'Neil III, Howard J., Latin America Animal Production Training Program (RAPCO Dairy Nutrition Training). USSEC, \$51,000, "Service Agreement 2017." (Lead contact and manager).
26. **Campabadal, Carlos (PI)**, Miller, Brandi, O'Neil III, Howard J, and Thiele, Shawn. Poultry and Swine Short Course - Japan. USSEC, \$39,960, "Service Agreement 2017." (Lead contact and manager).
27. Smith, Gordon, **Campabadal, Carlos (Co-PI)**, Miller, Brandi, Thiele, Shawn, and O'Neil III, Howard J., Kansas Wheat Commission, \$100,000, "Market Development Grant - International Grains Program Support Project 2017."
28. **Campabadal, Carlos (PI)**, Miller, Brandi, Thiele, Shawn, and O'Neil III, Howard J. Latin America Risk Management. USSEC, \$12,600, "Service Agreement 2016." (Lead contact and manager).
29. Smith, Gordon, **Campabadal, Carlos (Co-PI)**, Miller, Brandi, and O'Neil III, Howard J., Kansas Corn Commission, \$75,000, "Market Development Grant - International Grains Program Support Project 2016."
30. Smith, Gordon, **Campabadal, Carlos (Co-PI)**, Miller, Brandi, Thiele, Shawn, and O'Neil III, Howard J. Kansas Soybean Commission, \$100,000, "Market Development Grant - International Grains Program 2016."
31. Smith, Gordon, **Campabadal, Carlos (Co-PI)**, Miller, Brandi, and O'Neil III, Howard J., Kansas Grain Sorghum Commission, \$30,000, "Market Development Grant - International Grains Program 2016."
32. Miller, Brandi, **Campabadal, Carlos (Co-PI)**, Thiele, Shawn, and O'Neil III, Howard J, USDA SCEP Training Program on technology Model of Silage of Corn Production and Processing - China. USDA, \$54,631.50, "Service Agreement 2016".
33. **Campabadal, Carlos (PI)**, Miller, Brandi, Thiele, Shawn, O'Neil III, Howard J, and Stark, Charles. Feed Study Team - China. USSEC, \$26,000, "Service Agreement 2016." (Lead contact and manager).
34. **Campabadal, Carlos (PI)**, Miller, Brandi, O'Neil III, Howard J, Jones, Cassandra, and Stark, Charles. Animal Production Educational Assistance (RAPCO Feed Manufacturing Training). USSEC, \$71,500, "Service Agreement 2016." (Lead contact and manager).
35. **Campabadal, Carlos (PI)**, Miller, Brandi, Beyer, Scott, and O'Neil III, Howard J., Latin America Animal Production Training Program (RAPCO Poultry Nutrition Training). USSEC, \$47,499, "Service Agreement 2016." (Lead contact and manager).
36. **Campabadal, Carlos (PI)**, Miller, Brandi, O'Neil III, Howard J, Jones, Cassandra, and Stark, Charles. Middle East and North Africa Feed Manufacturing Training. USSEC, \$21,000, "Service Agreement 2016." (Lead contact and manager).
37. **Campabadal, Carlos (PI)**, Miller, Brandi, and O'Neil III, Howard J. Customer Support on Purchasing (Oilseed & Grain Purchasing Resources & Tools Program). USSEC 2016, \$36,000, "Service Agreement". Lead contact and manager).

38. Miller, Brandi, **Campabadal, Carlos** (Co-PI), Aldrich, Greg. Commercial Pet food Industry for Veterinary Clinical Nutritionists Program. Hill's Pet Nutrition, Inc. \$27,500, "Service Agreement 2016".
39. Smith, Gordon, **Campabadal, Carlos (Co-PI)**, Miller, Brandi, and O'Neil III, Howard J., Kansas Wheat Commission, \$100,000, "Market Development Grant - International Grains Program Support Project 2016."
40. **Campabadal, Carlos** (PI), Miller, Brandi, O'Neil III, Howard J, Jones, Cassandra, and Stark, Charles. Poultry and Swine Short Course - Japan. USSEC, \$40,960, "Service Agreement 2016." (Lead contact and manager).
41. **Campabadal, Carlos** (PI), Miller, Brandi, O'Neil III, Howard J, Jones, Cassandra, Stark, Charles, and Brouk, Michael. Feed/Dairy Study Team - China. USSEC, \$28,600, "Service Agreement 2015." (Lead contact and manager).
42. **Campabadal, Carlos** (PI) and O'Neil III, Howard J. USDA Cochran Program for Morocco and Tunisia in Cereal and Feed Management, \$38,001.30 "Service Agreement 2015." (Lead contact and manager).
43. **Campabadal, Carlos** (PI), Fowler, Mark, Miller, Brandi, and O'Neil III, Howard J. USDA Cochran Program for Brazil on U.S. Wheat Classification and Standards, \$38,204.00 "Service Agreement 2015." (Lead contact and manager).
44. Smith, Gordon, **Campabadal, Carlos** (Co-PI), Fowler, Mark, and O'Neil III, Howard J. Kansas Soybean Commission, \$100,000, "Market Development Grant - International Grains Program 2015."
45. Smith, Gordon, **Campabadal, Carlos** (Co-PI), Fowler, Mark, and O'Neil III, Howard J., Kansas Grain Sorghum Commission, \$30,000, "Market Development Grant - International Grains Program 2015."
46. Smith, Gordon, **Campabadal, Carlos** (Co-PI), Fowler, Mark, and O'Neil III, Howard J., Kansas Wheat Commission, \$50,000, "Market Development Grant - International Grains Program Support Project 2015."
47. Smith, Gordon, **Campabadal, Carlos** (Co-PI), Fowler, Mark, and O'Neil III, Howard J., Kansas Corn Commission, \$75,000, "Market Development Grant - International Grains Program Support Project 2015."
48. **Campabadal, Carlos** (PI), Animal Production Educational Assistance (RAPCO Feed Manufacturing Training). USSEC, \$71,500, "Service Agreement 2015." (Lead contact and manager).
49. **Campabadal, Carlos** (PI), and O'Neil III, Howard J. Customer Support on Purchasing (Oilseed & Grain Purchasing Resources & Tools Program). USSEC 2015, \$36,000, "Service Agreement". Lead contact and manager).
50. **Campabadal, Carlos** (PI), and O'Neil III, Howard J. USDA Cochran Program for Malaysia in Grain Management for Feed and Milling, \$36,720.50 "Service Agreement 2015." (Lead contact and manager).
51. **Campabadal, Carlos** (PI), Cassandra, Jones, Stark, Charles, and Maier, Dirk E. USDA Cochran Training for Ethiopia in Animal Feed Production. US Department of Agriculture, \$810.81 "Service Agreement 2013 and Adjustment from 2014". (Lead contact and manager).
52. **Campabadal, Carlos** (PI), Ambrose, Rose Prabin, O'Neil III, Howard J., and Maier, Dirk E. USDA Cochran Program on Grain and Feed Procurement Vietnam. US Department of Agriculture, \$27,499.82 "Service Agreement 2014." (Lead contact and manager).

53. Maier, Dirk E., **Campabadal, Carlos** (Co-PI), Fowler, Mark, and O'Neil III, Howard J., Kansas Grain Sorghum Commission, \$30,000, "Market Development Grant - International Grains Program 2014."
54. Maier, Dirk E., **Campabadal, Carlos** (Co-PI), Fowler, Mark, and O'Neil III, Howard J., Kansas Corn Commission, \$75,000, "Market Development Grant - International Grains Program Support Project 2014."
55. Maier, Dirk E., **Campabadal, Carlos** (Co-PI), Fowler, Mark, and O'Neil III, Howard J. Kansas Soybean Commission, \$100,000, "Market Development Grant - International Grains Program 2014."
56. Maier, Dirk E., **Campabadal, Carlos** (Co-PI), Fowler, Mark, and O'Neil III, Howard J., Kansas Wheat Commission, \$100,000, "Market Development Grant - International Grains Program Support Project 2014."
57. Maier, Dirk E., **Campabadal, Carlos** (Co-PI), Fowler, Mark, and O'Neil III, Howard J., Latin America Animal Production Training Program Part 2 (RAPCO Poultry Nutrition Training). USSEC, \$47,499, "Service Agreement 2014." (Lead contact and manager).
58. Maier, Dirk E., **Campabadal, Carlos** (Co-PI), Fowler, Mark, and O'Neil III, Howard J., Animal Production Certification Program 14KA03M54B (RAPCO Feed Manufacturing Training). USSEC, \$71,499.60, "Service Agreement 2014." (Lead contact and manager).
59. Maier, Dirk E., **Campabadal, Carlos** (Co-PI), Fowler, Mark, and O'Neil III, Howard J., Swine Production and Soybean Meal Training Program U14CXNA078. USSEC, \$16,800, "Service Agreement 2014." (Lead contact and manager).

Since 2012, received a total of **\$ \$10,972,197.54** in competitive grants and contracts to support research (66.3%) and outreach (extension) programs (33.7%). Total funds as **PI: \$ \$3,679,530.18** (33.5%) and as **Co-PI: \$7,292,667.36** (66.5%). Funding sources include: As **PI:** Farmer State Commissions' (0.4%), federal sources (99.6%) and industry (0%) and as **Co-PI:** Farmer State Commissions' (25%), federal sources (73.8%) and industry (1.2%) for research, outreach (extension) programs. Also, generated since 2011 in service agreements for IGP for outreach training programs for the domestic and international grain industry, a total of **\$ \$735,052.57**.

Academic Advisor & Supervisor

- Graduate Students:
 - Alejandro Morales, (Main Advisor) Master's Degree at Department of Grain Science and Industry, Kansas State University. Research topic: The Effect of Grain Chilling on Stored Grain at Different Weather Conditions. May 2015 – December 2017 (graduated).
 - Mercedes Nana Frempong (Co-Advisor), Master's Degree at Department of Grain Science and Industry, Kansas State University. Research topic: NIR Analysis and Quantification of Feed Ingredients for the Poultry Industry in Ghana. August 2016 – August 2018 (expected graduation).
 - Frank Idan (Co-Advisor), Doctoral Degree at the Department of Grain Science and Industry, Kansas State University. Research Topic: Poultry Nutrition for Ghanaian Farmers. August 2016- May 2019 (expected graduation).
- Undergraduate Students:
 - Paulina Boesche, (Main Advisor) Bachelor's Degree in Food Engineering at the Department of Food Engineering, Universidad del Valle Guatemala. Senior Research Project: "Análisis y propuesta de mejora del manejo post cosecha de maíz (Zea mays) para la reducción de aflatoxinas y fumonisinas en el maíz cultivado y consumido en el Departamento de Huehuetenango, Guatemala: Diseño,

construcción e implementación del secador de bajo costo STR para maíz desgranado.” Graduation December 2016

- Marines Overall, (Main Advisor) Bachelor’s Degree in Food Engineering at the Department of Food Engineering, Universidad del Valle Guatemala. Senior Research Project: “Análisis y propuesta de mejora del manejo post cosecha de maíz (*Zea mays*) para la reducción de aflatoxinas y fumonisinas en el maíz cultivado y consumido en el Departamento de Huehuetenango, Guatemala: Diseño, construcción e implementación del secador de bajo costo STR para maíz en mazorca.” Graduation December 2016.
- Daniel Aragon, (Main Advisor) Bachelor’s Degree in Food Engineering at the Department of Food Engineering, Universidad del Valle Guatemala. Senior Research Project: “Análisis y propuesta de mejora del manejo post cosecha de maíz (*Zea mays*) para la reducción de aflatoxinas y fumonisinas en el maíz cultivado y consumido en el Departamento de Huehuetenango, Guatemala: Diseño, construcción e implementación de un secador de granos de maíz.” Graduated December 2015.
- Manuel Lopez, (Main Advisor) Bachelor’s Degree in Food Engineering at the Department of Food Engineering, Universidad del Valle Guatemala. Senior Research Project: “Análisis y propuesta de mejora del manejo post cosecha de maíz (*Zea mays*) para la reducción de aflatoxinas y fumonisinas en el maíz cultivado y consumido en el Departamento de Huehuetenango, Guatemala: Diseño, construcción e implementación de un secador de granos de maíz.” Graduated December 2015.

Honors and Awards

- **Honors:**

- Member of *Alpha Epsilon* Agricultural Engineering Honor Society, Chapter University of Illinois since 2003 and Purdue University since 2006.
- Member of *Gamma Sigma Delta* Agricultural Honor Society, Chapter University of Illinois since 2004.
- Member of the Academic Excellence Committee in the Department of Mechanical Engineering in the Universidad de Costa Rica 1998-1999.

- **Awards**

- North Central National Extension Leadership Development Program (NELD) Kansas State University Delegate 2017.
- American Association of Cereal Chemists AACC Student Travel Award 2004 to 2010.
- Purdue University Latin Scholar Forum Travel Scholarship 2008.

Professional, Technical and Scientific Affiliations

- Member of American Society of Agricultural and Biological Engineers (ASABE).
- Member of the ASABE’s PRS-702: Crop & Feed Processing & Storage Committee (review of scientific procedures and standards).
- Member of the Grain Elevator and Processing Society (GEAPS) and the Great Plains District.
- Member of GEAPS Continuing Education Program Oversight Committee (CEPOC).
- Member of American Feed Industry Association (AFIA) Equipment Manufacturers’ Committee and Production Compliance Committee.
- Member of GEAPS Hands-On Training Committee.
- Member of the ISO TC293 U.S. Tag Team and member of their Ad-Hoc Feed Machinery group and Working Group 2: Feed Terminology for Feed Pelletting, Drying and Cooling, and Cleaning and Grading.
- Member and Official Station Representative of Kansas State University at the NC-213: Marketing and Delivery of Quality Grains and Bioprocess Coproducts.

Service

- Advisor of Kansas State University Costa Rican Student Association (2016 – present).
- Department of Grain Science and Industry Parking Committee (2013 – present).
- Organizer for visit of the Costa Rican President and delegation to Kansas State University in May 2016.
- Organizing Committee Member of the 2015 International Grain Quality and Food Security Conference.
- Department of Grain Science and Industry Annual Evaluation Review Committee (2015-2016).
- Purdue University Latino Graduate Student Organization Chair (2007 – 2008).
- American Association of Cereal Chemists – Student Protein Division Chair (2003-2004), Silent Auction Chair (2003-2004), Treasurer (2005-2006), Chair (2006-2007), Young Cereal Chemist Meeting Chair (2008-2009) and (2009-2010), and Young Cereal Chemist Collaborator (2010-2011).
- Moderator for Industrial/Applied Science Track - Engineering and Processing' technical session on AACC International Annual Meeting on Monday, September 22, 2008 in Honolulu, Hawaii.
- Alpha Epsilon Honors Society Chapter University of Illinois – Vice-Chair (Spring 2004), Engineering Council Rep (Fall 2003).
- Vice-Chair of the Mechanical Engineering Student Association at Universidad de Costa Rica in (1997 -1998).

Continuing Education/Professional Training

- PCQI Feed Safety Training at the IGP Institute in Manhattan, KS in 2017.
- Buhler Expert Milling Short Course at the IGP Conference Center in Manhattan, KS in 2012.
- Methyl Bromide and Alternatives Workshop at Kansas State University in Manhattan, KS in 2010.
- Grain Marketing Distance Education Courses from the Agriculture Sciences Program at Parkland Community College in Champaign, IL in 2005 (Incomplete).
- Participant in the IAOM Milling Maintenance Course II in Wichita, KS in 2004.
- Participant in Short Course: Wet Milling Processing for Recovery of Starch and Value Added Co-products by the Department of Agricultural and Biological Engineering, University of Illinois, Urbana, IL, USA in 2003.
- Participant in the Rapco Feed Manufacturing Short Course sponsored by ASA-IM in San José, Costa Rica in 1999, 2000, and 2002.
- Participant in short course: Proactive Maintenance by Reliability. (MBC) by Balances Dinámicos S.R.L San Antonio de Belen. Heredia, Costa Rica in 2000.
- Participant in Short Course: Extrusion Processing for Human and Animal Products by Center for Protein Research and Development, Texas A&M, College Station, TX, USA in 2000.
- Participant in several practical courses (Boiler Design and Maintenance, Motor Installation and Maintenance, Pump Selection and Maintenance) in the Certificate Program in Maintenance Technician in Electro-Mechanics by Instituto Tecnológico de Costa Rica (TEC) in Cartago, Costa Rica in 1999-2000.

Skills

- Computer software: Microsoft Office, SAS, and AutoCad.
- Fluent in Spanish (native language) and English. Reading ability in Portuguese, French and Catalan.
- Laboratory analysis for 10-kg and 1-kg Wet Milling and Dry Milling Processes.
- Design and management of field experimental trials in farm, grain storage, handling and processing facilities for drying and pest control.