

# CURRICULUM VITAE

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## CONTACT INFORMATION

**Business:** Department of Nutrition, Dietetics, and Food Sciences  
Utah State University  
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## EDUCATION

- 1998-2003 **Ph.D. in Exact Science (Food Science).** Faculty of Exact Science. Department of Chemistry, National University of La Plata, Buenos Aires, Argentina. Average grade: 10 (1 to 10 scale).  
Thesis Title: Crystallization of Waxes in Sunflower Oil
- 1990-1997 **Undergraduate Studies.** Faculty of Exact Science, National University of La Plata, Buenos Aires, Argentina. Major: Biochemistry (1997), Minor: Chemistry (1996).

## WORK EXPERIENCE

- 2011-present **Associate Professor:** Department of Nutrition, Dietetics, and Food Sciences, Utah State University, Logan, Utah, US
- 2005-2011 **Assistant Professor:** Department of Nutrition, Dietetics, and Food Sciences, Utah State University, Logan, Utah, US
- 2009-present **Associate Editor** of the *Journal of the American Oil Chemists' Society*
- 2006-present **Manager, Sensory Evaluation Facilities.** Department of Nutrition and Food Sciences, Utah State University
- 2007-2009 **Associate Member** of the Center for Advanced Nutrition at Utah State University
- 2004-2006 **Consulting Scientist (FRACTEC Research and Development)** for several Multinational Food Companies in the field of physicochemical and structural characterization of lipids
- 2004-2005 **Postdoctoral Fellow.** University of Guelph, Department of Food Science  
Supervisor: Professor A.G. Marangoni.  
Topics: Development of new technologies to determine SFC in-line (ultrasonics, NMR-MOUSE) in bulk fats and emulsions.  
Moisture barrier properties of various fat blends
- 2003-2004 **Postdoctoral Fellow.** National Research Council of Argentina (CONICET)  
University of Buenos Aires, FCEyN, Department of Industry, Buenos Aires, Argentina.  
Supervisor: Professor M.L. Herrera  
Topics: Encapsulation of fats with different sugar matrixes  
Effect of different emulsifiers on the crystallization and rheological behavior of different fat systems
- 1999 **Product Development.** Fanaquímica S.A., La Reja, Moreno, Buenos Aires, Argentina  
Topic: Development of soy protein based adhesives
- 1998-2003 **Doctoral Fellow** of the National Research Council of Argentina (CONICET)  
CIDCA (UNLP-CONICET). La Plata, Buenos Aires, Argentina.

Supervisor: Professor M.C. Añón  
 Topic: Crystallization of waxes in sunflower oil

## AWARDS

- 2012-2015 **William C. Winder and Rebecca Steward Winder Professorship Award**, Department of Nutrition, Dietetics, and Food Sciences, Utah State University.
- 2011 **Undergraduate Research Mentor of the Year**. College of Agriculture, Utah State University.
- 2011 **Undergraduate Research Mentor of the Year**. Department of Nutrition, Dietetics, and Food Sciences, Utah State University.
- 2009 **Faculty Researcher of the Year**. College of Agriculture, Utah State University.
- 2009 **Faculty Researcher of the Year**. Department of Nutrition, Dietetics, and Food Sciences, Utah State University.
- 2005 **Best Poster Presentation Award**. Latin American Section Conference of the AOCS
- 2003 **Best Ph.D. Dissertation**. Argentinean Chemical Society
- 2003 **AOCS Honored Student Award**. American Oil Chemists' Society

## RESEARCH ACCOMPLISHMENTS

### Publications

A \* indicates graduate students and a # indicates undergraduate students mentored.

#### Refereed Journal Articles:

- 1) Ye\*, Y., Tan#, C.Y., Kim, D., and **Martini, S.** Monitoring crystallization of a shortening by power ultrasound during temperature cycling. Submitted to the *Journal of the American Oil Chemists' Society* (May 2013)
- 2) **Martini, S.**, Rincón Cardona, J. A., Ye\*, Y., Tan#, C.Y., Candal, R. and Herrera, M.L. Crystallization behavior of high stearic high oleic sunflower oil stearins. Submitted to the *Journal of the American Oil Chemists' Society* (Accepted, August 2013) – doi: 10.1007/s11746-013-2329-6
- 3) Wagh, A., Walsh, M., and **Martini, S.** 2013. Effect of lactose monolaurate and high intensity ultrasound on crystallization behavior of anhydrous milk fat. *Journal of the American Oil Chemists' Society* 90:977-987 – doi: 10.1007/s11746-013-2244-x
- 4) Bäumlér, E. R., Carelli, A. and **Martini, S.** 2013. Physical properties of pectin aqueous solutions containing sunflower wax. *Journal of the American Oil Chemists' Society* 90:791–802 – doi: 10.1007/s11746-013-2235-y
- 5) Rincón Cardona, J.A., **Martini, S.**, Candal, R.J., and Herrera, M.L. 2013. Polymorphic behavior during isothermal crystallization of high stearic high oleic sunflower oil stearins. *Food Research International* 1:86-97 – doi: 10.1016/j.foodres.2012.11.023
- 6) Tansawat, R; Maughan\*, C.; Ward, R.; **Martini, S.** and Cornforth, D. 2013. Chemical characterization of pasture- and grain-fed beef related to meat quality and flavor attributes. *International Journal of Food Science and Technology* 48:484-495 – doi: 10.1111/j.1365-2621.2012.03209.x
- 7) Tippetts\*, M., Shen, F.K. and **Martini, S.** 2013. Fat Globule Microstructure of Protein/Polysaccharide or Protein/Protein Bilayer Emulsions at Various pH. *Food Hydrocolloids* 30:559–566 – doi:10.1016/j.foodhyd.2012.07.012

- 8) **Martini, S.** and Walsh, M. K. 2012. Sensory characteristics and functionality of sonicated whey. *Food Research International* 49:694-701 – doi: 10.1016/j.foodres.2012.09.018
- 9) **Martini, S.**, Tejeda-Pichardo<sup>#</sup>, R., Ye<sup>\*</sup>, Y., Padilla<sup>#</sup>, S.G., Shen, F.K, and Doyle, T. 2012. Bubble and crystal formation in lipid systems during high-intensity insonation. *Journal of the American Oil Chemists' Society* 89:1921-1928 – doi: 10.1007/s11746-012-2085-z
- 10) Tippetts<sup>\*</sup>, M., **Martini, S.**, Brothersen, C. and McMahon, D. 2012. Fortification of Cheese with Vitamin D<sub>3</sub> using Dairy Protein Emulsions as Delivery Systems. *Journal of Dairy Science* 95:4768-4774 – doi:10.3168/jds.2011-5134
- 11) Tippetts<sup>\*</sup>, M. and **Martini, S.** 2012. Influence of ι-Carrageenan, Pectin, and Gelatin on the Physicochemical Properties and Stability of Milk Protein-Stabilized Emulsions. *Journal of Food Science* 77:C253-260 – doi: 10.1111/j.1750-3841.2011.02576.x (**Impact Factor: 1.733**)
- 12) Maughan<sup>\*</sup>, C. and **Martini, S.** 2012. Identification and Quantification of Flavor Attributes present in Chicken, Lamb, Pork, Beef, and Turkey. *Journal of Food Science* 77:S115-121 – doi: 10.1111/j.1750-3841.2011.02574.x (**Impact Factor: 1.733**)
- 13) Maughan<sup>\*</sup>, C. Tansawat, R., Cornforth, D., Ward, R., and **Martini, S.** 2012. Development of a beef flavor lexicon and its application to compare the flavor profile and consumer acceptance of rib steaks from grass- or grain-fed cattle. *Meat Science* 90:116-121 – doi:10.1016/j.meatsci.2011.06.006 (**Impact Factor: 1.954**)
- 14) Ye<sup>\*</sup>, Y., Wagh, A., and **Martini, S.** 2011. Using High Intensity Ultrasound as a Tool to Change the Functional Properties of Interesterified Soybean Oil. *Journal of Agricultural and Food Chemistry* 59:10712-10722 – doi:10.1021/jf202495b (**Impact Factor: 2.562**)
- 15) Kerr<sup>#</sup>, R., Tombokan, X., Ghosh, S., and **Martini, S.** 2011. Crystallization Behavior of Anhydrous Milk Fat-Sunflower Oil Wax Blends. *Journal of Agricultural and Food Chemistry* 59:2689-2695 – doi:10.1021/jf1046046 (**Impact Factor: 2.562**)
- 16) **Martini, S.**, Potter<sup>#</sup>, R., and Walsh, M.K. 2010. Optimizing the Use of High Intensity Ultrasound to Decrease Turbidity in Whey Protein Suspensions. *Food Research International* 43:2444-2451 – doi:10.1016/j.foodres.2010.09.018 (**Impact Factor: 2.580**)
- 17) Thurgood<sup>\*</sup>, J.E. and **Martini, S.** 2010. Effect of Three Emulsion Compositions on Taste Thresholds and Intensity Ratings of Five Taste Compounds. *Journal of Sensory Studies* 25:861-875 – doi:10.1111/j.1745-459X.2010.00311.x (**Impact Factor: 1.059**)
- 18) Tippetts<sup>\*</sup>, M. and **Martini, S.** 2010. Monitoring Flavor Characteristics of Docosahexaenoic Acid Fortified Emulsions as a Function of Processing Conditions using Sensory Evaluation. *Food Chemistry* 122:737-743 – doi:10.1016/j.foodchem.2010.03.046 (**Impact Factor: 3.183**)
- 19) Garg, N., **Martini, S.**, Britt, D.W., and Walsh, M.K. 2010. Emulsifying Properties of Lactose-amines in Oil-in-Water Emulsions. *Food Research International* 43:1111-1115 – doi:10.1016/j.foodres.2010.02.003 (**Impact Factor: 2.580**)
- 20) Suzuki, A.; Lee<sup>#</sup>, J.; Padilla<sup>#</sup>, S., and **Martini, S.** 2010. Altering Functional Properties of Fats Using Power Ultrasound. *Journal of Food Science* 75:E208-E214 – doi: 10.1111/j.1750-3841.2010.01572.x) (**Impact Factor: 1.489**)
- 21) Tippetts<sup>\*</sup>, M. and **Martini, S.** 2009. Effect of Cooling Rate on the Thermal Behaviour and Physicochemical Stability of Oil-In-Water Emulsions. *Food Research International* 42:847-855 – doi: 10.1016/j.foodres.2009.03.009 (**Impact Factor: 2.580**)
- 22) **Martini, S.**, Thurgood<sup>\*</sup>, J.E., Brothersen, C., Ward, R., and McMahon, D.J. 2009. Fortification of Reduced Fat Cheddar Cheese with n-3 Fatty Acids: Effect on Off-Flavor

- Generation. *Journal of Dairy Science*. 92:1876-1884 – [doi:10.3168/jds.2008-1871](https://doi.org/10.3168/jds.2008-1871) (**Impact Factor: 2.978**)
- 23) Nelson, K.A.S. and **Martini, S.** 2009. Increasing Omega Fatty Acid Content in Milk Through Cow's Diet: Effect on Milk Flavor. *Journal of Dairy Science*. 92:1378-1386 – [doi:10.3168/jds.2008-1780](https://doi.org/10.3168/jds.2008-1780) (**Impact Factor: 2.978**)
- 24) Tippetts\*, M. and **Martini, S.** 2009. Effect of Oil Content and Processing Conditions on the Thermal Behavior and Physicochemical Stability of Oil-in-water Emulsions. *International Journal of Food Science and Technology* 44:206-215 – [doi:10.1111/j.1365-2621.2008.01741.x](https://doi.org/10.1111/j.1365-2621.2008.01741.x) (**Impact Factor: 1.065**)
- 25) **Martini, S.**, Carelli, A., and Lee<sup>#</sup>, J. 2008. Effect of the Addition of Waxes on the Crystallization Behavior of Anhydrous Milk Fat *Journal of the American Oil Chemists' Society* 85:1097-1104 – [doi: 10.1007/s11746-008-1310-2](https://doi.org/10.1007/s11746-008-1310-2) (**Impact Factor: 1.504**)
- 26) Thompson, R.L., Carpenter, C.E., **Martini, S.**, Broadbent J.R. 2008. Control of *Listeria monocytogenes* in Ready-to-Eat Meats Containing Sodium Levulinate, Sodium Lactate, or a Combination of Sodium Lactate and Sodium Diacetate. *Journal of Food Science* 73(5) M239-M244 – [doi: 10.1111/j.1750-3841.2008.00786.x](https://doi.org/10.1111/j.1750-3841.2008.00786.x) (**Impact Factor: 1.489**)
- 27) **Martini, S.**, Suzuki<sup>#</sup>, A.H. and Hartel, R.W. 2008. Effect of High Intensity Ultrasound on Crystallization Behavior of Anhydrous Milk Fat. *Journal of the American Oil Chemists' Society* 85:621-628 – [doi: 10.1007/s11746-008-1247-5](https://doi.org/10.1007/s11746-008-1247-5) (**Impact Factor: 1.504**)
- 28) **Martini, S.** and Herrera, M.L. 2008. Physical Properties of Low-trans Shortenings as Affected by Emulsifiers and Storage Conditions. *European Journal of Lipid Science and Technology* 110:172-182 – [doi: 10.1002/ejlt.200700196](https://doi.org/10.1002/ejlt.200700196) (**Impact Factor: 1.490**)
- 29) **Martini, S.** and Tippetts\*, M. 2008. Effect of Processing Conditions on the Crystallization behavior and Destabilization Kinetics of Oil-in-Water Emulsions. *Journal of the American Oil Chemists' Society* 85:119–128 – [doi: 10.1007/s11746-007-1183-9](https://doi.org/10.1007/s11746-007-1183-9) (**Impact Factor: 1.504**)
- 30) Thurgood<sup>#</sup>, J., Ward, R., and **Martini, S.** 2007. Oxidation Kinetic of Soybean Oil/ Anhydrous Milk Fat Blends: A Differential Scanning Calorimetry Study. *Food Research International* 40:1030-1037 – [doi:10.1016/j.foodres.2007.05.004](https://doi.org/10.1016/j.foodres.2007.05.004) (**Impact Factor: 2.580**)
- 31) Cerdeira, M., **Martini, S.**, Candal, R.J. and Herrera, M.L. 2006. Polymorphism and Growth Behavior of Low-trans Fatty Acids Blends Formulated With and Without Emulsifiers *Journal of the American Oil Chemists' Society* 83:489-496 (**Impact Factor: 1.504**)
- 32) Marangoni, A., Aurand T., **Martini, S.**, and Ollivon, M. 2006. A Probabilistic Approach to Model the Nonisothermal Nucleation of Triacylglycerol Melts. *Crystal Growth and Design* 6:1199-1205 (**Impact Factor: 4.215**)
- 33) **Martini, S.**, Kim, D. Ollivon, M., and Marangoni, A.G. 2006. Structural Factors Responsible for the Permeability of Water Vapor through Fat Barrier Films. *Food Research International* 39:550-558 (**Impact Factor: 2.580**)
- 34) **Martini, S.**, Kim, D., Ollivon, M., and Marangoni, A.G. 2006. The Water Vapor Permeability of Polycrystalline Fat Barrier Films. *Journal of Agricultural and Food Chemistry* 54:1880-1886 (**Impact Factor: 2.562**)
- 35) Cerderia, M., Pastore, V., Vera, L., **Martini, S.**, Candal, R.J. and Herrera, M.L. 2005. Nucleation Behavior of Blended High-Melting Fractions of Milk Fat as Affected by Emulsifiers. *European Journal of Lipid Science and Technology* 107:12 877-885 (**Impact Factor: 1.490**)

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- 36) Cerdeira, M., **Martini, S.**, and Herrera, M.L. 2005. Microencapsulating Properties of Trehalose and of its Blends with Sucrose and Fructose. *Journal of Food Science* 70:6 401-408 (**Impact Factor: 1.489**)
  - 37) **Martini, S.**, Herrera, M.L. and Marangoni, A.G. 2005. New Technologies to Determine Solid Fat Content on-line. *Journal of the American Oil Chemists' Society* 82:313-317 (**Impact Factor: 1.504**)
  - 38) **Martini, S.**, Bertoli, C., Herrera, M.L., Neeson, I. and Marangoni, A.G. 2005. Attenuation of Ultrasonic Waves: Influence of Microstructure and Solid Fat Content. *Journal of the American Oil Chemists' Society* 82:319-328 (**Impact Factor: 1.504**)
  - 39) **Martini, S.**, Bertoli, C., Herrera, M.L., Neeson, I. and Marangoni, A.G. 2005. In-situ Monitoring of Solid Fat Content by Means of p-NMR and Ultrasonics. *Journal of the American Oil Chemists' Society* 82:305-312 (**Impact Factor: 1.504**)
  - 40) **Martini, S.** and Añón, M.C. 2005. Storage of Sunflower-seeds: Variation on the Wax Content of the Oil. *European Journal of Lipid Science and Technology* Vol. 107, Issue 2, page 74-79 (**Impact Factor: 1.490**)
  - 41) **Martini, S.**, Cerdeira, M. and Herrera, M.L. 2004. Effect of Sucrose Esters on the Crystallization Behavior of Bulk Oil Systems. *Journal of the American Oil Chemists' Society* 81:209-211 (**Impact Factor: 1.504**)
  - 42) Cerdeira, M., Puppo, M.C., **Martini, S.**, and Herrera, M.L. 2003. Effects of Salts on Crystallization Kinetics and Rheological Behavior of Concentrated  $\alpha$ ,  $\alpha$ -Trehalose Solutions. *Journal of Food Science* 68:2644-2650 (**Impact Factor: 1.489**)
  - 43) Cerdeira, M., **Martini, S.**, Hartel, R.W., and Herrera, M.L. 2003. Effect of Sucrose Ester Addition on Nucleation and Growth Behavior of Milk Fat-Sunflower Oil Blends. *Journal of Agricultural and Food Chemistry* 51:6550-6557 (**Impact Factor: 2.562**)
  - 44) **Martini, S.** and Añón, M.C. 2003. Crystallization of Sunflower Oil Waxes. *Journal of the American Oil Chemists' Society* 80:525-532 (**Impact Factor: 1.504**)
  - 45) **Martini, S.**, Puppo, M.C., Hartel, R.W. and Herrera, M.L. 2002. Effect of Sucrose Esters and Sunflower Oil Addition on Microstructure of a High-Melting Milk Fat Fractions. *Journal of Food Science* 67:3412-3418 (**Impact Factor: 1.489**)
  - 46) Puppo, M.C., **Martini, S.**, Hartel, R.W. and Herrera, M.L. 2002. Effect of Sucrose Esters on Isothermal Crystallization and Rheological Behaviors of Blends of High-Melting Milk Fat Fraction and Sunflower Oil. *Journal of Food Science* 67:3419-3426 (**Impact Factor: 1.489**)
  - 47) **Martini, S.** and Herrera, M.L. 2002. X-Ray Diffraction and Crystal Size. *Journal of the American Oil Chemists' Society* 79:315-316 (**Impact Factor: 1.504**)
  - 48) **Martini, S.** and Herrera, M. L. 2002. Practical Considerations in Nucleation Studies. *Journal of the American Oil Chemists' Society* 79:411-412 (**Impact Factor: 1.504**)
  - 49) **Martini, S.**, Herrera, M.L., and Hartel, R.W. 2002. Effect of Processing Conditions on Microstructure of Milk Fat Fraction/Sunflower Oil Blends. *Journal of the American Oil Chemists' Society* 79:1063-1068 (**Impact Factor: 1.504**)
  - 50) **Martini, S.**, Herrera, M.L. and Hartel, R.W. 2002. Effect of Cooling Rate on Crystallization Behavior of Milk Fat Fraction/Sunflower Oil Blends. *Journal of the American Oil Chemists' Society* 79:1055-1062 (**Impact Factor: 1.504**)
  - 51) **Martini, S.**, Herrera, M.L. and Hartel, R.W. 2001. Effect of Cooling Rate on Nucleation Behavior of Milk Fat-Sunflower Oil Blends. *Journal of Agricultural and Food Chemistry* 49(7):3223-3229 (**Impact Factor: 2.562**)

52) **Martini, S.** and Añón, M.C. 2000. Determination of Wax Concentration in Sunflower-seed Oil. *Journal of the American Oil Chemists' Society* 77:1087-1092 (**Impact Factor: 1.504**)

**Non-refereed Articles:**

- 1) **Martini, S.** 2011. Beyond texture and mouthfeel: How lipids influence taste perception *Inform-Invited article*
- 2) **Martini, S.** and Herrera, M.L. 2008. Effect of Emulsifiers on Shortenings *Lipid Technology* 20:180-183-*Invited article*.
- 3) **Martini, S.** 2007. Ultrasonic Spectroscopy in Lipid Food Systems. *Food Technology* 40-44.
- 4) **Martini, S.**, Piatko, M., Bernet, S. and Marangoni A. G. 2005. Ultrasonic Technology Applied to Edible Fats and Emulsions. *Inform* 16(7) 462-464.

**Books**

- 1) **Martini, S.** 2013. Sonocrystallization of Fats, SpringerBriefs in Food, Health, and Nutrition, DOI: 10.1007/978-1-4614-7693-1\_1.

**Book Chapters:**

- 1) Gunstone, F.D. and **Martini, S.** Chapter 24. 2010. Bulk Oils and Shortenings, Spreads, and Frying Oils. In *Chemical Deterioration and Physical Instability of Food and Beverages*. Ed. L. Skibsted, J. Risbo, and M. Andersen, Woodhead Publishing, Cambridge, UK pp. 413-438.
- 2) **Martini, S.** 2010. Chapter 53: Flavor of Canola Oil. In: *Handbook of Fruits and Vegetables Flavors*. Ed. Chen, F. Wiley-Interscience, New York, NY pp. 1033-1049.
- 3) **Martini S.** 2008. How to land the academic job. In: *Career Preparation: How to Get and Keep a Job in Food Science*, Ed. Hartel, R.W. and Klawitter, C. Springer New York, NY pp. 285-304.
- 4) **Martini S.** and Marangoni, A.G. 2007. Microstructure of Dairy Fat Products. In *Structure of Dairy Products*. Edited by A.Y. Tamime, SDT, Blackwell Publishing, pp. 72-103.
- 5) **Martini S.**, Awad, T. and Marangoni A.G. 2006. Structure and Properties of Fat Crystals Networks. In *Modifying Lipids for Use in Foods*. Edited by Frank Gunstone, CRC Press, NY, 2006, pp. 142-169.
- 6) **Martini, S.** and Herrera, M.L. 2000. Crystallization Behavior of Milk Fat Model Systems: Kinetics and Polymorphism. In *Research Advances in Oil Chemistry*, Global Research Network, Killipalam, India. (pp. 1-23, December, 2000).

**Book Reviews:**

- 1) **Martini, S.** 2012. Review of the book: Structure-Function Analysis of Edible Fats. Ed. Marangoni, A.G. AOCS Press, IL in *Inform* (submitted, July 2012)
- 2) **Martini, S.** 2009. Review of the book: Modifying Flavour in Food Ed. By Taylor, A. and Hort, J. CRC Press New York, NY in *Trends in Food Science & Technology* 20:45-47-[doi:10.1016/j.tifs.2008.10.001](https://doi.org/10.1016/j.tifs.2008.10.001).
- 3) **Martini, S.** 2006. Review of the book: Fat Crystal Networks by Marangoni, A. Marcel Decker, NY in *Inform* (July 2006 pp. 477).
- 4) **Martini, S.** 2005. Review of the book: Rapeseed and Canola Oil: Production, Processing and Uses. Edited by Frank Gunstone. CRC Press, in *Trends in Food Science and Technology* 16:359-364.

**Congress Participation**

An \* indicates graduate students and a # indicates undergraduate students mentored. The presenter's name is underlined.



- 1) MacAdam, J.W., S.R. Hunt, **S. Martini**, R.G. Christensen and J.-S. Eun. 2013. Meat and milk production on irrigated birdsfoot trefoil pastures in the Mountain West USA. P. Nichols et al. (Ed.) Proceedings of the XXII International Grassland Congress, 15-19 September 2013, Sydney, Australia.
- 2) MacAdam, J.W., **S. Martini** and T.C. Griggs. 2013. The potential for reducing the carbon dioxide equivalent of beef production by finishing cattle on pure Lotus corniculatus pastures compared with grain-based feedlot finishing. R. Dewhurst et al. (Ed.) Proceedings of the 5th Greenhouse Gases and Animal Agriculture Conference, 23-26 June 2013, Dublin, Ireland. *Advances in Animal Biosciences* 4 (Part 2) 323.
- 3) Wagh, A., **Martini, S.** and Walsh, M. 2013. Sensory evaluation of a flavored and sonicated protein beverage. *IFT-Bonneville Section-Student Poster Competition*. Salt Lake City, UT (poster presentation)
- 4) Jana\*, S. and **Martini, S.** 2013. Quantification of Phase Separation of Beeswax in Soybean Oil at Different Cooling Rates. *IFT-Bonneville Section-Student Poster Competition*. Salt Lake City, UT (poster presentation)
- 5) Ye\*, Y. and **Martini, S.** 2013. The influence of ultrasound-related variables on the crystallization behavior of shortenings. *IFT-Bonneville Section-Student Poster Competition*. Salt Lake City, UT (poster presentation)
- 6) Tan<sup>#</sup>, C.Y. and **Martini, S.** 2013. Crystal Morphology and Viscoelastic Properties of Waxes in Vegetable Oils *IFT-Bonneville Section-Student Poster Competition*. Salt Lake City, UT (poster presentation – **2<sup>nd</sup> place**)
- 7) **Martini, S.**, Rincon Cardona, J.A., Ye\*, Y., Tan<sup>#</sup>, C.Y., Candal, R., Herrera, M.L. 2013. Crystallization behavior of high-oleic high-stearic sunflower oil stearins under dynamic and static conditions. *104<sup>rd</sup> AOCS Annual Meeting and Expo*, Montreal, Canada (poster presentation)
- 8) Tan<sup>#</sup>, C.Y., Heng<sup>#</sup>, Y.Y. and **Martini, S.** 2013. Viscoelastic and Melting Behavior of Waxes in Vegetable Oils. *104<sup>rd</sup> AOCS Annual Meeting and Expo*, Montreal, Canada (poster presentation)
- 9) Ye\*, Y., Tan<sup>#</sup>, C.Y., Kim, D. and **Martini, S.** 2013. Application of power ultrasound to a zero trans shortening during temperatura cycling under different cooling rates. *104<sup>rd</sup> AOCS Annual Meeting and Expo*, Montreal, Canada (oral presentation)
- 10) Zhong\*, V., Allen, K., and **Martini, S.** 2013. Effect of high intensity ultrasound-treated lipid on the physical properties and sensory quality of baked products. *Institute of Food Technologists' 2013 Annual Meeting and Expo*, Chicago, IL (poster presentation)
- 11) Tansawat, R., Song, X., Owens, E., Stone, B., **Martini, S.** and Cornforth, D. 2013. Effects of Beefside treatment on beef trim on ground beef properties. *Institute of Food Technologists' 2013 Annual Meeting and Expo*, Chicago, IL (poster presentation)
- 12) Bäumler, E., Chalapud, M., Carelli A., A., and **Martini, S.** 2012. Preparación y análisis de propiedades físicas de películas elaboradas con pectinas cítricas y ceras de girasol. *IV Congreso Internacional de Ciencia y Tecnología de los Alimentos*. Cordoba, Argentina
- 13) **Martini, S.** 2012. Food structure, chemical composition, and sensory perception. Brigham Young University, Provo, UT (*invited speaker*).
- 14) Wagh, A., **Martini, S.**, and Walsh, M. 2012. Investigating the use of lactose monolaurate as an emulsifier in 20% oil-in-water emulsions *Institute of Food Technologists' 2012 Annual Meeting and Expo*, Las Vegas, NV (poster presentation)

- 15) Wagh, A., Martini, S., and Walsh, M. 2012. Effect of lactose monolaurate on the crystallization properties of anhydrous milk fat *Institute of Food Technologists' 2012 Annual Meeting and Expo*, Las Vegas, NV (poster presentation)
- 16) Martini, S., Ye\*, Y., and Doyle, T. 2012 Monitoring bubble and crystal formation in lipid systems using ultrasound spectroscopy during high intensity insonation *Institute of Food Technologists' 2012 Annual Meeting and Expo*, Las Vegas, NV (poster presentation)
- 17) Wagh, A., Martini, S., and Walsh, M. 2012. Use of Lactose Monolaurate as an Emulsifier and its Effect on Crystallization of Anhydrous Milk Fat *103<sup>rd</sup> AOCS Annual Meeting and Expo*, Long Beach, CA (poster presentation)
- 18) Martini, S. 2012. "Application of physicochemical principles to confectionary (crystallization and polymorphism)" presented during the short course "Fats and Oils for Confectionary and Chocolates: Chemistry, Primary Sources, Crystallization, Alternatives, and Stability" during the *103<sup>rd</sup> AOCS Annual Meeting and Expo*. Long Beach, CA (*invited speaker*).
- 19) Zhong, H., Allen, K., and Martini, S. 2012. Effect of power ultrasound (US) treated lipid on physicochemical qualities of baked products *103<sup>rd</sup> AOCS Annual Meeting and Expo*, Long Beach, CA (poster presentation)
- 20) Ye\*, Y., and Martini, S. 2012. Changing the microstructure of a high saturated shortening using power ultrasound *103<sup>rd</sup> AOCS Annual Meeting and Expo*, Long Beach, CA (poster presentation)
- 21) Ye\*, Y., Padilla<sup>#</sup>, S., and Martini, S. 2012. Effect of high intensity ultrasound on crystal morphology, melting profile, and viscoelastic properties of a low-saturated shortening *103<sup>rd</sup> AOCS Annual Meeting and Expo*, Long Beach, CA (oral presentation)
- 22) Chiew<sup>#</sup>, N., Tan<sup>#</sup>, C.Y., Padilla<sup>#</sup>, S., and Martini, S. 2012. Stability of wax/oil self-assembled materials as affected by oil and wax composition *103<sup>rd</sup> AOCS Annual Meeting and Expo*, Long Beach, CA (oral presentation)
- 23) Rincon Cardonal, J., Ye\*, Y., Martini, S., Candal, R., and Herrera, L. 2011. Propiedades Fisicoquímicas de Estearinas de Aceite de Girasol Alto Esteárico Alto Oleico *XIV Latin American Congress and Exhibition on Fats and Oils Confectionery Fats and Oils* Cartagena, Colombia (poster presentation)
- 24) Ye\*, Y., Padilla<sup>#</sup>, S., Shen, F.K, and Martini, S. 2011. Ultrasonido de alta intensidad como herramienta para cambiar la funcionalidad de los lípidos: posibles aplicaciones en grasas y aceites para confecciones. *XIV Latin American Congress and Exhibition on Fats and Oils Confectionery Fats and Oils* Cartagena, Colombia (*Invited Speaker*)
- 25) Ye\*, Y., Wagh, A., and Martini, S. 2011. High intensity ultrasound as a novel technique to change the microstructure and textural properties of fats. *IFT11 Annual Meeting & Expo* New Orleans, LA (poster presentation)
- 26) Martini, S., Wadhvani, R., Ghosh, S., and Tombokan, X. 2011. Sensory quantification using TD-NMR. *TD-NMR Applications in the Food Industry: Compositional Analysis, Quality Control, and Safety*, North Carolina, US (*Invited Speaker*)
- 27) Zhong\*, H., Allen, K., and Martini, S. 2011. Effect of five fats sources on the physicochemical quality of baked goods. *102<sup>th</sup> AOCS Annual Meeting and Expo* Cincinnati, OH (poster presentation).
- 28) Bäumler, E.R., Carelli, A.A., and Martini, S. 2011. Thermal and optical properties of mixed pectin-wax films. *102<sup>th</sup> AOCS Annual Meeting and Expo* Cincinnati, OH (poster presentation).

- 29) Bäumler, E.R., Kerr, R., Carelli, A.A., and **Martini, S.** 2011. Physical characteristics of sunflower wax-pectin aqueous solutions. *102<sup>th</sup> AOCS Annual Meeting and Expo* Cincinnati, OH (poster presentation).
- 30) **Ye\***, Y. Wagh, A., and **Martini, S.** 2011. Using high intensity ultrasound as a tool to change the functional properties of interesterified soybean oil. *102<sup>th</sup> AOCS Annual Meeting and Expo* Cincinnati, OH (oral presentation).
- 31) **Kerr<sup>#</sup>**, R., and **Martini, S.** 2011. Crystallization behavior of anhydrous milk fat and sunflower oil blends. *102<sup>th</sup> AOCS Annual Meeting and Expo* Cincinnati, OH (oral presentation).
- 32) **Martini, S.** 2011. Sensory Evaluation: a tool to characterize food products. Departamento de Industrias, University of Buenos Aires, Argentina (oral presentation) (*Invited Speaker*)
- 33) **Martini, S.** 2011. Use of ultrasound in lipid food systems. *Indo-US workshop on Nano-Ultrasonics*, Trichy, India (*Invited Speaker*)
- 34) **Martini, S.** 2010. Food structure, chemical composition, and sensory perception, USU Research Council (*Invited speaker*)
- 35) **Martini, S. (Invited Speaker)**. 2010. Power Ultrasound and its Effect on Fat Microstructure. *KRAFT Foods Inc.* Glenview, IL (oral presentation).
- 36) **Doyle, T.E., Martini, S., Jensen, S.C., Pichardo<sup>#</sup>, R.J.T., and Hart, V.** 2010. Ultrasonic Spectral Analysis of Cavitation Bubbles in Vegetable Oils. *160th Meeting of the Acoustical Society of America*, Cancun, Mexico (oral presentation).
- 37) **Tippetts\*, M., and Martini, S.** 2010. Method to Quantify Retention of Oil Phase in a Cheese Curd Model System. *2010 ADSA Annual Meeting* July 11-15, Denver, CO (poster presentation)
- 38) **Maughan\*, C., and Martini, S.** 2010. Development of a Flavor Lexicon for Meat Samples *2010 RMC*, Lubbock, TX (poster presentation).
- 39) **Martini, S., Potter<sup>#</sup>, R., and Walsh, M.** 2010. Influence of Time, Temperature, and Intensity of High Intensity Ultrasound on the Turbidity of Whey proteins. *101<sup>th</sup> AOCS Annual Meeting and Expo*, Phoenix, AZ (poster presentation).
- 40) **Tippetts\*, M., and Martini, S.** 2010. Flavor Characteristics of Docosahexaenoic Acid Fortified Emulsions Formulated under Different Processing Conditions: A Sensory Evaluation Perspective. *101<sup>th</sup> AOCS Annual Meeting and Expo*, Phoenix, AZ (poster presentation).
- 41) **Martini, S., Tejada Pichardo<sup>#</sup>, R.J., Jensen, S.C., Hart, V., and Doyle, T.** 2010. Monitoring Bubble Dynamics in Soybean Oil. *101<sup>th</sup> AOCS Annual Meeting and Expo*, Phoenix, AZ (oral presentation).
- 42) **Martini, S. (Featured speaker)**. 2009. High Intensity Ultrasound: an Additional Tool to Change the Microstructure of Lipids. *Crystallization of Lipids, from Nucleation to Application*, Toronto, ON, Canada
- 43) **Lee<sup>#</sup>, J., Suzuki, A.H., Padilla<sup>#</sup>, S.G., and Martini, S.** 2009. Effect of High Intensity Ultrasound (HIU) on Crystallization Behavior and Texture of Palm Kernel Oil and an All-Purpose Shortening. *IFT-Bonneville Section-Student Poster Competition*. Salt Lake City, UT (poster presentation)
- 44) **Tippetts\*, M., Martini, S., Brothersen, C., and McMahon, D.** 2009. Retention of Vitamin D Fortified Emulsions in Bench-top Cheese. *2009 ADSA Annual Meeting*, Montreal, Canada (oral presentation)

- 45) **Martini, S.**, Tombokan, X., and Ghosh, S. 2009. TD-NMR: Theory and Application in Food Science: A review. *IFT '09 Annual Meeting & Expo*. Anaheim CA
- 46) Thurgood\*, J. Maughan\*, C., and **Martini, S.** 2009. The Effect of Lipids on Recognition Thresholds of the Five Basic Tastes *100<sup>th</sup> AOCS Annual Meeting and Expo*, Orlando, FL (poster presentation)
- 47) **Tippetts\*, M.** (*2009 AOCS Honored Student Award*), and **Martini, S.** 2009. Effect of Cooling Rate on the Stability of Anhydrous Milk Fat/Soybean Oil-in-Water Emulsions. *100<sup>th</sup> AOCS Annual Meeting and Expo*, Orlando, FL (oral presentation)
- 48) **Martini, S.**, Suzuki, A., and Lee<sup>#</sup>, J. 2009. Modifying Lipid Crystallization Using Acoustic Waves. *100<sup>th</sup> AOCS Annual Meeting and Expo*, Orlando, FL (oral presentation)
- 49) **Martini, S.**, and Marangoni, A. 2008. In-situ Measurement of Solid Fat Content using Low Intensity Ultrasound. Section: Driving Growth and Sustainability through Innovation *IFT*. New Orleans, LA (*invited presentation- oral*)
- 50) Garg, N., Walsh, M., **Martini, S.**, and **Britt, D.** 2008. Emulsifying Properties of Lactose-amines. *IFT*. New Orleans, LA (poster presentation)
- 51) **Ward, R.**, **Martini, S.**, Frame D.D., and Palmer, M. 2008. Effects of Feeding Omega-3 Rich Camelina Sativa to Turkeys on Breast Meat Fatty Acid Composition. *IFT*. New Orleans, LA (oral presentation)
- 52) **Tippetts\*, M.**, and **Martini, S.** 2008. Effect of Cooling Rate on the Thermal Behavior and Physicochemical Stability of Oil-in-Water Emulsions. *IFT-Bonneville Section Salt Lake City*, (poster presentation)-**Third Place**
- 53) **Wadhvani, R.**, Suzuki<sup>#</sup>, A.H., **Martini, S.**, Ward, R., Frame D.D., and Palmer, M. 2008. Consumer Acceptance of Breasts and Thighs Obtained from Turkeys Fed with Omega-3 Fatty Acids. *IFT-Bonneville Section Salt Lake City* (poster presentation)
- 54) **Garg, N.**, Walsh, M., **Martini, S.**, and **Britt, D.** 2008. Investigating the Emulsification Activity of Lactose Amides. *IFT-Bonneville Section Salt Lake City* (poster presentation)
- 55) **Thurgood\*, J.E.**, Brothersen, C., **Martini, S.**, and McMahon, D. 2008. Sensory Evaluation of Reduced Fat Cheddar Cheese Containing Added Omega-3 Fatty Acids. *IFT-Bonneville Section Salt Lake City* (poster presentation)
- 56) **Suzuki<sup>#</sup>, A.**, **Martini, S.**, and Hartel, R. 2008. Structuring Anhydrous Milk Fat by Using High Intensity Ultrasound. *99<sup>th</sup> AOCS Annual Meeting and Expo*, Seattle, WA (poster presentation)
- 57) **Tippetts\*, M.** and **Martini, S.** 2008. Effect of Processing Conditions and Formulation on the Stability of Oil-in-Water Emulsions. *99<sup>th</sup> AOCS Annual Meeting and Expo*, Seattle, WA (poster presentation)
- 58) Lee<sup>#</sup>, J., Thurgood\*, J., Andreasen<sup>#</sup>, L., and **Martini, S.** 2008. Effect of Wax Addition on the Crystallization Behavior of Anhydrous Milk Fat. *99<sup>th</sup> AOCS Annual Meeting and Expo*, Seattle, WA, May 18-21<sup>st</sup> (poster presentation)
- 59) **Tippetts\*, M.**, Thurgood<sup>#</sup>, J., and **Martini, S.** 2007. Effect of Processing Conditions on Physiochemical Characteristics of Food Emulsions. *98<sup>th</sup> AOCS Annual Meeting and Expo* Quebec City, QC, Canada (poster presentation)
- 60) **Thurgood<sup>#</sup>, J.**, Ward, R., and **Martini, S.** 2007. Autoxidation Kinetics of Soybean Oil and Anhydrous Milk Fat Blends: Comparing Isothermal and Non-isothermal DSC. *98<sup>th</sup> AOCS Annual Meeting and Expo* Quebec City, QC, Canada (poster presentation)

- 61) Thurgood<sup>#</sup>, J., Ward, R., and **Martini, S.** 2007. A Systematic Approach to Study the Oxidation Kinetics in Lipid Systems using Differential Scanning Calorimetry. *98<sup>th</sup> AOCS Annual Meeting and Expo* Quebec City, QC, Canada (oral presentation)
- 62) **Tippetts\***, M. and **Martini, S.** 2007. Effect of Formulation on the Thermal Behavior and Physicochemical Stability of Oil-in-Water Emulsions. *IFT Bonneville Section Student Research Poster Contest* (poster presentation)
- 63) **Thompson, R.**, Broadbent, J., Carpenter, C., and **Martini, S.** 2007. The Control of *Listeria Monocytogenes* on Ready to Eat Meats with Levulinic Acid. *IFT Bonneville Section Student Research Poster Contest* (poster presentation)
- 64) **Thurgood<sup>#</sup>, J.** and **Martini, S.** 2007. Oxidation Kinetics and Stability of Anhydrous Milk Fat and Polyunsaturated Fatty Acid Blends. *Utah Conference on Undergraduate Research*, January 2<sup>nd</sup>, University of Utah, UT (poster presentation)
- 65) **Martini, S.**, Kim, D., Ollivon, M., and Marangoni, A. 2006. Structural Factors Responsible for the Permeability of Water Vapor through Fat Barrier Films. *97<sup>th</sup> AOCS Annual Meeting and Expo*, St. Louis, Missouri, USA (oral presentation)
- 66) **Cerdeira, M.**, **Martini, S.**, Candal, R. y Herrera, M.L. 2005. Propiedades Físicoquímicas de Mezclas Grasas con Bajo Contenido de Ácidos Grasos Trans. *Premio XI congreso latinoamericano de grasas y aceites. XI Congreso Latinoamericano de Grasas y Aceites*, Rosario-Buenos Aires, Argentina (poster presentation)
- 67) **Martini, S.**, Piatko, M., Bernet, S., Neeson, I., Herrera M.L., and Marangoni A.G. 2005. In-line Monitoring of Fats and Oils Structure using Ultrasonic Spectroscopy. *96<sup>th</sup> AOCS Annual Meeting and Expo*, Salt Lake City, Utah (oral presentation).
- 68) **Martini, S.**, Bertoli, C., Herrera, M.L., Neeson, I., and Marangoni, A.G. 2004. Influence of Microstructure and Solid Fat Content on the Attenuation of Ultrasonic Waves During Fat Crystallization. *Lipid Structural Properties Symposium*, Unilever R&D, Colworth, UK (oral presentation)
- 69) **Martini, S.**, Bertoli, C., Herrera, M.L., Neeson, I., and **Marangoni, A.G.** 2004. Monitoring Fat Crystallization and Structure using Ultrasonic Spectroscopy. *Lipid Structural Properties Symposium*, Unilever R&D, Colworth, UK (poster presentation)
- 70) **Herrera, M.L.**, **Martini, S.**, and Cerdeira, M. 2004. Encapsulation of a Low-Melting Fraction of Milk Fat in Sugar Matrices. *36<sup>th</sup> ACS Great Lakes Regional Meeting 2004*, Peoria, IL (poster presentation)
- 71) **Martini, S.**, Herrera, M.L., and Marangoni, A. 2004. Variation of Ultrasonic Parameters with Fat Crystallization. *Canadian Institute of Food Science and Technology & Agri-Food Canada Joint Conference*, Guelph, Ontario, Canada. (poster presentation)
- 72) **Martini, S.**, Singh, A., and Marangoni, A. 2004. In-situ Monitoring of SFC During Crystallization Under Shear by p-NMR and Ultrasonics. *95<sup>th</sup> AOCS Annual Meeting and Expo*, Ohio, Cincinnati, USA (oral presentation)
- 73) **Martini, S.** and Añón, M.C. 2003. Nucleación de Ceras en Aceite de Girasol *IV Congreso Iberoamericano de Ingeniería de Alimentos, CIBIA IV*, Valparaíso, Chile (poster presentation).
- 74) Cerdeira, M., Puppo, M.C., **Martini, S.**, and Herrera, M.L. 2003. Efecto de los Esteres de Sacarosa en la Cinética de Cristalización Microestructura y Comportamiento Reológico de un Sistema Graso Formulado con Grasa de Leche y Aceite de Girasol. *IV Congreso Iberoamericano de Ingeniería de Alimentos, CIBIA IV*; Valparaíso, Chile (poster presentation).

- 75) Cerdeira, M., Puppo, M.C., **Martini, S.**, and Herrera, M.L. 2003. Efecto de los Esteres de Sacarosa en la Cinética de Cristalización y Microestructura de Mezclas Grasas de Bajo Contenido de Acidos Grasos trans Formulados con Aceite de Girasol. *2<sup>do</sup> Congreso Argentino de Girasol*, Buenos Aires, Argentina (poster presentation).
- 76) **Martini, S.** (*2003 AOCS Honored Student Award*) and Herrera, M.L. 2003. Effect of Sucrose Esters on Nucleation Behavior of High Melting Milk Fat Fractions-Sunflower Oil Blends. *94<sup>th</sup> AOCS Annual Meeting & Expo*, Kansas City, Missouri, USA (oral presentation).
- 77) **Martini, S.**, Añón, M.C., and Hartel, R.W. 2002. Thermal Behavior of Sunflower Oil Waxes. *World Conference and Exhibition on Oilseed and Edible, Industrial, and Specialty Oils*, Istanbul, Turkey (poster presentation).
- 78) Puppo, C., **Martini, S.**, Cerdeira, M., Hartel, R.W., and Herrera, M.L. 2002. Effect of Processing Conditions on Crystallization Kinetics and Rheology of Milk Fat/Sunflower Oil Blends Formulated with and without the Addition of Emulsifiers. *93<sup>rd</sup> AOCS Annual Meeting & Expo*, Montreal, Quebec, Canada (oral presentation)
- 79) **Martini, S.**, Cerdeira, M., Puppo, C., Hartel, R.W., and Herrera, M.L. 2002. Effect of Emulsifiers and Processing Conditions on Microstructure of Milk Fat/Sunflower Oil Blends. *93<sup>rd</sup> AOCS Annual Meeting & Expo*, Montreal, Quebec, Canada (poster presentation)
- 80) **Martini, S.** and Añón, M.C. 2001. Effect of Storage Conditions on Crystallization of Sunflower-Seed Oil Waxes. *92<sup>nd</sup> AOCS Annual Meeting & Expo*, Minneapolis, Minnesota, USA (poster presentation)
- 81) **Martini, S.**, Herrera, M.L., and Hartel R.W. 2001. Mathematical Interpretation of the Isothermal Crystallization Behavior of High Melting Milk Fat Fraction and Sunflower Oil Blends. *92<sup>nd</sup> AOCS Annual Meeting & Expo*, Minneapolis, Minnesota, USA (poster presentation)
- 82) **Martini, S.**, Herrera, M.L., and Hartel R.W. 2001. Isothermal Crystallization Study of High Melting Milk Fat Fraction and Sunflower Oil Blends. *92<sup>nd</sup> AOCS Annual Meeting & Expo*, Minneapolis, Minnesota, USA (oral presentation)
- 83) **Martini, S.** and Añón M.C. 2001. Cristalización de Ceras en Aceite de Girasol. *Lipidex Sudamerica 2001*, Buenos Aires, Argentina (poster presentation)
- 84) **Martini, S.**, Herrera, M.L., and Hartel, R.W. 2000. Effect of Cooling Rate on Nucleation Behavior of Milk Fat-Sunflower Oil Blends. *91<sup>st</sup> AOCS Annual Meeting & Expo*, San Diego, CA, USA (poster presentation)
- 85) **Martini, S.** and Añón, M.C. 1999. Comparison of Different Methods to Determine Wax Concentration in Sunflower-seed Oil. *90<sup>th</sup> AOCS Annual Meeting & Expo*, Orlando, Florida, USA (poster presentation)
- 86) **Martini, S.** and Añón, M.C. 1999. Determination of Wax Concentration in Sunflower-seed Oil. *AOCS-OTAI International Conference & Exhibition on Oil Seed & Vegetable Oil Processing*, New Delhi, India (poster presentation)

## Patents

- 1) *Provisional patent*: Method of Structuring Lipids in Lipid-based Materials using High-Intensity Ultrasound and Materials Produced Therefrom. Martini, S. Application Number: 61053304- May 2008
- 2) *Provisional patent*: Method of Whey Protein Processing. Martini, S. and Walsh, M. Application Number: 61330447- May 2010

- 3) *Full patent application: Protein Processing Methods and Products.* Martini, S. and Walsh, M.  
Application Number: 12907283 - October 2010

### Grants

**Total funding to date: approximately \$2,003,855**

*Competitive and external: \$1,612,380 (PI and co-PI)*

*PI: \$385,570*

*Co-PI: \$1,226,810*

*Directed and external: \$198,530 (PI and co-PI)*

*Competitive and internal: \$53,575 (PI)*

*Travel grants: \$4,400*

*Other funding: \$67,500*

*International collaborations: \$ 77,500*

### Grants as a PI:

#### External

- 2012-2013 ***Pomona LLC.*** - Improving polyphenol content in coconut and peanut oils by using ultrasound. PI: Martini, S. \$10,030
- 2011-2012 ***KRAFT Foods Inc.*** - Effect of high intensity ultrasound on the crystallization behavior of shortenings. PI: Martini, S. \$41,000
- 2009-2012 ***USDA-AFRI:*** “Modifying the Functional Properties of Lipids using High Intensity Ultrasound” - \$ 282,290 PI: Martini, S., co-PI: Allen, K. (*competitive*)
- 2009-2010 ***National Cattlemen’s Beef Association:*** “Development of a Beef Flavor Lexicon: Finding Relationships between Beef Flavor Attributes, Meat Quality and Consumer Acceptance” - \$53,926 PI: Martini, S., co-PIs: Cornforth, D., Ward, R. (*competitive*)
- 2008-2010 ***Dairy Management Inc.*** “Effect of High Intensity Ultrasound (HIU) on Functional Properties of Whey Proteins” - \$49,354 PI Martini, S., co-PI: Walsh, M. (*competitive*)
- 2008-2009 ***Dairy Technology Innovation Laboratory (Dairy Management Inc.)*** “Fortification of Cheese with Vitamin D” – \$90,000 PI: Martini, S., co-PIs: McMahan, D. and Brothersen, C. (*directed*).

#### Internal

- 2009-2010 ***Utah State University VP for Research Grant- RC Program:*** “Physics-Based Methods for the Nanoscale Monitoring and Processing of Foods” - \$19,575 PI: Martini, S., co-PI: Doyle, T. (*competitive*)
- 2007-2008 ***Community/University Research Initiative Grant-USU*** “Using High Intensity Ultrasound to Manufacture Healthy Foods” – \$19,000 – PI: Martini, S. (*competitive*).
- 2006-2007 ***New Faculty Grant-USU*** “Formulation of *Trans*-free Food Emulsions with Enhanced Nutritional Value: Modeling their Physicochemical and Sensory Characteristics”-\$15,000 College of Agriculture, Utah State University – PI: Martini, S. (*competitive*).

### Grants as a co-PI:

*External*

- 2013-2016 **Dairy Research Institute:** "Use of sonication to study impact on physiochemical properties of concentrated milk, and impact on fouling and milk powder quality" - \$118,000 PI: Walsh, M.K., co-PI: Martini, S.
- 2010-2014 **USDA Organic Agriculture Research and Extension Initiative:** "Organic Stone-Fruit Production: Optimizing water use, fertility, pest management, fruit quality and economics" - \$637,519 PI: Reeve, J., co-PIs: Black, B., Alston, D., Ransom, D., Ward, R., and Martini, S. (competitive).
- 2009-2012 **USDA-AFRI:** "Primary Roles for Secondary Compounds: Enhancing the Health of Soil, Plants, Herbivores and People" - \$374,133 PI: Provenza, F., co-PIs: Reeve, J., MacAdam, J., Villalba, J., Wiedmeier, R., Cornforth, D., Martini, S., Ward, R., Burritt, B., Hart, R. *(competitive).*
- 2009-2010 **Dairy Management Inc.** "Flavor Comparison between UHT Milk Heated by Conventional Methods and Electrical Resistive Heating" - \$153,263 PI McMahon, D., co-PIs: Walsh, M., Martini, S. (competitive)
- 2008-2010 **Dairy Management Inc.** "Improve the Flavor of Low-fat Cheese by Adding Innovating Cultures and/or Flavoring Systems" - \$61,895 – PI: McMahon, D., co-PIs: Broadbent, J., Martini, S. (competitive).
- 2007-2009 **Dairy Technology Innovation Laboratory (Dairy Management Inc.)** "Development of a Descriptive Panel for Dairy Application" - \$57,500 – PI: Brothersen, C., co-PIs: McMahon, D., Martini, S. (directed).

**Other Funding**

- 2011-2013 **Utah State University – Utah Agricultural Experiment Station:** Effect of lipid content on saltiness perception. PI: Martini, S. \$19,000
- 2012-2014 **Utah State University – Utah Agricultural Experiment Station:** Optimization of processing conditions to use high intensity ultrasound in shortenings in a continuous system. PI: Martini, S. \$19,773
- 2013-2014 **Utah State University – Utah Agricultural Experiment Station:** Pasture-finished beef with high consumer acceptability: A comparison of birdsfoot trefoil-finished beef with grain-finished and grass-finished beef. PI: MacAdam, J. Co-PI: Martini, S. \$20,000
- 2010 **Utah State University – Utah Agricultural Experiment Station:** Purchase of a AR-G2 rheometer (TA Instruments) for the determination of viscoelastic. PI: Martini, S. \$29,500
- 2010-2015 **Utah State University- Utah Agricultural Experiment Station** Evaluating relationships between food quality and physicochemical properties. PI: Martini, S. \$20,000 UTA01026
- 2006-2010 **Utah State University- Utah Agricultural Experiment Station (2006-2009)** Effect of Emulsion Formulation on it Physicochemical and Sensory Properties. PI: Martini, S. \$18,000 UTA00253
- 2007-2009 **Women and Gender Research Institute-USU** Travel grant - \$1,500.
- 2001 **Travel Grant:** ACS International Initiatives Program- Short Term Visits to the United States, American Chemical Society-\$2,000
- 1997 **Travel Grant:** University of La Plata, Buenos Aires, Argentina-\$900



### International Collaborations

- 2010 ***Indo-US Science & Technology Forum***: “Indo – US bilateral workshop on Nanosonics and Ultrasonics” - \$ 25,000 PI: Johnson, I., co-PI: Martini, S.  
*Funds provided for this grant will be used to organize a workshop on ultrasonic topics. The main objective of this workshop is to promote collaboration between Indian and American researchers. For more information, please refer to [hht://www.iuwonu.com](http://www.iuwonu.com).*
- 2010-2013 ***Agencia Nacional de Promoción Científica y Tecnológica-Proyecto RAICES***: “Aceite de girasol alto esteárico alto oleico como alternativa a las grasas trans” - \$ 62,500 PI: Herrera, M.L., co-PI: Martini, S.  
*This collaboration is based on a project that will evaluate the use of high stearic sunflower oil for food applications. My role is to provide sensory evaluation guidance in the experimental design. This project encourages the exchange of their participants between Argentina and USA.*

### Visiting Scientists

- 2010 Erica Bäumlér (post-doctoral fellow): Preparation and characterization of biofilms formulated with pectins and sunflower oil waxes. (September-December).
- 2011 Shanti Fitriani: Visiting scientist from Indonesia to perform training in sensory evaluation techniques (February-March)
- 2012 Andreia Suzuki (Undergraduate intern): Effect of lipid addition on saltiness perception (January-May)
- 2013 Jessica Mayumi Maruyama (Undergraduate intern): Effect of high intensity ultrasound and emulsifiers on the crystallization behavior of coconut and palm oil (January-February)
- 2014 Lina Marcela Agudelo Laverde (post-doctoral fellow): Effect of sonication on crystallization behavior of high oleic high stearic sunflower oil (February-March)
- 2014 Jaime Alberto Rincon Cardona (PhD intern): Effect of sonication on crystallization behavior of high oleic high stearic sunflower oil (February-March)

### Students

***Graduate:*** 2 PhD students, 5 MS students

- 2006-2008 Megan Tippetts, MS: *Effect of processing and formulations conditions on physicochemical characteristics of food emulsions*  
 Seely-Hinckley Scholarship recipient - Fall 2006/Spring 2007  
 Gandhi Scholarship recipient - Fall 2006/Spring 2007  
 2009 AOCS Honored Student Award
- 2007-2009 Jennifer Thurgood, MS: *Effect of lipid composition on basic tastes thresholds*  
 Gandhi Scholarship recipient - Fall 2008/Spring 2009
- 2008-2011 Megan Tippetts, Ph.D.: *Optimizing a Vitamin D delivery matrix to maximize its retention in Cheddar cheese*
- 2008-2011 Curtis Maughan, MS: *Development of flavor lexicon for meat*

- 2010-2013 Haoyuan Zhong, MS: *Evaluating the baking performance of no-trans shortenings*  
 2010-present Yubin Ye, PhD student: *Modifying shortening physicochemical properties using ultrasound*  
 2012-present Sarbojeet Jana, MS student: *Crystallization of waxes in vegetable oils*

***Undergraduate:*** 13 total

- 2006 Jennifer Thurgood: *Effect of chemical composition on the oxidation kinetics of oils*  
     URCO recipient-Summer 2006  
     Undergraduate Research Award- Fall 2006/Spring 2007  
     Undergraduate Teaching Assistant recipient-Spring 2007
- 2007 Lance Andreasen: *Effect of sunflower wax addition on the microstructure of anhydrous milk fat*  
     URCO recipient-Summer 2007  
     Undergraduate Research Award- Fall 2007/Spring 2008
- 2007-2009 Andreia Suzuki: *Structuring milk fat by using high intensity ultrasound*
- 2007-2009 Jiwon Lee: *Effect of processing conditions on the crystallization behavior of lipid systems*  
     *Effect of sunflower wax addition on the thermal behavior of anhydrous milk fat*  
     *Microstructural changes caused by acoustic waves: the palm kernel oil and all-purpose shortening case*  
     Undergraduate Teaching Assistant-Spring 2008/09
- 2007- 2008 Richard Steiner: *Optimization of a method for extracting and purifying waxes from sunflower oil settlings*
- 2008 Joy Merket: *Sensory evaluation of DHA fortified emulsions*
- 2009-2010 Ricardo Jose Tejeda Pichardo: *Physics-based methods for the nanoscale monitoring and processing of foods*
- 2009-2010 Richard Potter: *Effect of high intensity ultrasound (HIU) on functional properties of whey proteins*
- 2008-2011 Rebekah Kerr: *Relationship between oxidation kinetics of lipids as measured by DSC and TBA.*  
     *Effect of SFO waxes addition on the crystallization and melting behavior of AMF*  
     URCO recipient, 2010
- 2009-2012 Suyapa Padilla: *Effect of high intensity ultrasound on the microstructure of an all purpose shortening*  
     *Optimizing wax separation using HIU*  
     *Quantification of wax crystallization in oil systems using a polarized light laser turbidimeter*
- 2011-2012 Nicholas Chiew: *Characterization of wax/oil oleogels using differential scanning calorimetry*
- 2011-present Chin Yiap Tan: *Stability of oil-in-water emulsions formulated with different NaCl concentrations*  
     *Quantification of the stability of wax/oil systems using a light scattering technique*  
     URCO recipient, 2012

2012-present Yin Yin Heng: *Quantification of the stability of wax/oil systems using a laser scattering technique*  
*Determination of polyphenols in vegetable oils*

**Technicians:**

2008-2011 Curtis Maughan: *Maintenance of cheese descriptive panel*

**Committee member** for graduate students:

2006-2008 Korinne Nelson, MS, Department of Animal, Dairy and Veterinary Sciences, USU

2006-2008 Ranjeeta Wadhvani, MS, Department of Nutrition and Food Sciences, USU

2006-2008 Nidhi Garg, MS, Department of Nutrition and Food Sciences, USU

2006-2008 Shaun Adams, MS, Department of Nutrition and Food Sciences, USU

2006-2008 Harshil Dhruv, Ph.D., Department of Biological and Irrigation Engineering, USU

2006-2010 Pin Liu, Ph.D. Candidate, Department of Biology, USU

2008-2010 Kelly Larsen, MS, Department of Nutrition, Dietetics, and Food Sciences, USU

2008-2012 Rossarin Tansawat, Ph.D., Department of Nutrition, Dietetics, and Food Sciences, USU

2009-2011 Ranjeeta Wadhvani, Ph.D., Department of Nutrition, Dietetics, and Food Sciences, USU

2009-2011 Subash Shresta, Ph.D., Department of Nutrition, Dietetics, and Food Sciences, USU

2010-2011 Rabekah Lance, MS, Department of Nutrition, Dietetics, and Food Sciences, USU

2010-2011 Laura Jefferies, Ph.D., Department of Nutrition, Dietetics, and Food Sciences, USU

2009-2012 Ashwini Wagh, Ph.D. Department of Nutrition, Dietetics, and Food Sciences, USU

2010-2013 David Irish, MS (plan B), Department of Nutrition, Dietetics, and Food Sciences, USU

2010-2013 Jiwon Lee, MS Candidate, Department of Nutrition, Dietetics, and Food Sciences, USU

2011-present Yan Liu, Ph.D. Candidate, Department of Biology, USU

2012-present Daniel Clayton, MS Candidate, Department of Nutrition, Dietetics, and Food Sciences, USU

2012-present Ying Lu, PhD Candidate, Department of Nutrition, Dietetics, and Food Sciences, USU

2013-present Guneev Sandhu, MS Candidate, Department of Nutrition, Dietetics, and Food Sciences, USU

**TEACHING EXPERIENCE**

2006-present **Assistant Professor/Associate Professor**

Instructor for the undergraduate and graduate course:

- *Sensory Evaluation of Foods* (NFS 3100/6100), 3 credits, USU (Spring 2006-present).
- *Seminar* for graduate and undergraduate students (NFS 7800), 1 credit, USU (Fall 2006).

- *Food Crystallization* (NFS 6730), 2 credits, USU (Spring 2007-present).
- *Food Science: From Farm to Fork* (NFS 1000), 1 credit (Fall 2007-present) USU.

2006-2009 ***Invited Lecturer***

- 2012: Application of Physicochemical Principles to Confectionary. In *Fats and Oils for Confectionary and Chocolates: Chemistry, Primary Sources, Crystallization, Alternatives, and Stability*. 103<sup>th</sup> American Oil Chemists' Society Annual Meeting and Expo, Long Beach, CA.
- 2012: Invited lecturer at Brigham Young University
- 2011: *Sensory evaluation of foods* (University of Buenos Aires, Argentina)
- 2007: *Short Course in Sensory Evaluation of Foods*. Coagel Corporation May 22<sup>nd</sup>-May 25<sup>th</sup>
- 2006-2010: *Judging Cheese*. Annual Cheese Making Short Course February and March Nutrition and Food Sciences, Utah State University
- 2006: *From Starting Materials to Sensory Evaluation and Consumer Acceptance*. Graduate Seminars, Department of Nutrition and Food Sciences, Utah State University, Feb. 15<sup>th</sup>.
- 2006, 2009: *Sensory Evaluation of Foods*. Utah Dairy Council: Nutrition and Food Science Workshop.

1998-2004 ***Graduate Lab Instructor***

Organic Chemistry I (undergraduate course/teaching 50-60 students per course) Faculty of Exact Science, National University of La Plata, Buenos Aires, Argentina

1993-1995 ***Undergraduate Lab Instructor***

Inorganic Chemistry I (undergraduate course/teaching 15-20 students per course). Faculty of Exact Science, National University of La Plata, Buenos Aires, Argentina

## SERVICE

***2012-present: Senior Associate Editor of the Journal of the American Oil Chemists' Society*** – manage approximately 700 manuscripts/year

***2012-present: Member of the Editorial Board of Food Research International***

***2009-present: Associate Editor of the Journal of the American Oil Chemists' Society***

2012-present: Chair of the Recognition Program Committee, *American Oil Chemists' Society*

2011: Scientific committee member of the *XIV Latin American Congress and Exhibition on Fats and Oils Confectionery Fats and Oils* Cartagena, Colombia

### **Ad-hoc Scientific Reviewer:**

- Crystal Growth and Design (*CGD*)
- Journal of Food Science (*JFS*)
- International Journal of Food Science and Technology (*IJFS&T*)
- Journal of the American Oil Chemists' Society (*JAOCS*)
- Food Research International (*FRI*)
- Journal of Dairy Science (*JDS*)

- AOCS Methods Reviewer (2008)
- Book Reviewer:
  - Taylor and Francis (2008)-book proposal review
  - Marcel Dekker (2006)
  - CRC Press (2005)
  - AOCS Press (2012)
- Grant Reviewer:
  - Dairy Farmers of Canada (2011)
  - Research Council K. U. Leuven, Netherlands (2010)
  - Utah State University-VP for Research: GEM, SPARC and RC grants (2009, 2010)
  - NSERC- Collaborative Research and Development Grant (2008)
  - Utah State University, Agricultural Experiment Station (2006, 2009, 2011, 2012)
  - Rutgers University, Agricultural Experiment Station (2012)
  - URCO-USU (2013)
- AOCS Edible Applications Technology Division Student Award Reviewer (2012)
- 2009: International reviewer of a PhD thesis: Analytical Investigations to compare the enzyme-assisted extraction of vegetable oils with conventional methods by Sajid Latif, Department of Chemistry & Biochemistry, Faculty of Sciences, University of Agriculture, Faisalabad, Pakistan.

**Other:**

- 2005- present: Management of the Sensory Evaluation Facilities at Utah State University. Provided service to private and academic sectors. The value of the service provided is of approximately \$56,000/yr.
- 2007-2012: American Association of Candy Technologists-Rocky Mountain Section (AACT-RM)
  - Vice Chair
- 2007-present: IFT-Bonneville Section
  - Member at large, Student night co-chair (2007-present)
  - Chair Elect (2012-2013)
  - Chair (2013-2014)
- 2007: Invited lecturer for the *New Faculty Orientation Sessions* at USU
- 2006: Member of the AOCS-Technical Committee
- 2006-2007, 2012-present: Member of the Gandhi Scholarship Committee
- 2008-present: Member of “Latinas First”
- 2008-present: American Association of Candy Technologists-Rocky Mountain Section-Scholarships Chair
- 2009-2013: American Oil Chemists’ Society (AOCS)-Food Structure and Functionality Forum Member: Awards Chair
- 2009-2012: American Oil Chemists’ Society (AOCS)-Student Mentor Program
- 2010-2012: Judge for the Student Poster Competition (IFT-Bonneville Section)
- 2010-2012: Judge for the Student Competitions (VP-Research-USU)

- 2011: Session Chair: “Innovative Technologies in Foods” during *XIV Latin American Congress and Exhibition on Fats and Oils Confectionery Fats and Oils*, Cartagena, Colombia
- 2010-present: AOCS Recognition Program Committee
  - 2012-2014: Chair
- 2012: Undergraduate researcher of the year committee for USU
- 2013: Researcher of the Year Committee, USU
- 2013: Session moderator in NCUR

### **SELF IMPROVEMENT**

- 2013: Leadership Forum, Institute of Food Technologists, Chicago, IL
- 2012: *Fats and Oils for Confectionary and Chocolates: Chemistry, Primary Sources, Crystallization, Alternatives, and Stability*. 103<sup>th</sup> American Oil Chemists’ Society Annual Meeting and Expo, Long Beach, CA.
- 2011: *Grants Writers’ Seminar & Workshops LLC*, Office of Research and Graduate Studies, Proposal Development, Utah State University, Logan, UT
- 2009: *Descriptive Analysis in Sensory Evaluation*. Institute of Food Technologists.
- 2007: *Teaching Portfolios Webinar*: Utah State University
- 2006: *Sensory and Instrumental Analysis of Dairy Flavors*. Department of Food Science, North Carolina State University.
- 2006: Faculty Assistance Center for Teaching, Utah State University
  - WebCT workshop (2006)
  - BlackBoard Vista (2007)
- 2006: *USDA-CSREES Grantsmanship Workshops*, Kansas City, MI
- 2006: Online Seminar: Teaching Portfolios: Improve Teaching and Personnel Decisions.
- 2006: Western Region Teaching Symposium, Utah State University.
- 2005-2006: *Certificate Program in Applied Sensory Science and Consumer Testing” UC-Davis*.
  - Foundations of Sensory Science (October-December 2005)
  - Sensory evaluation Methods (January-March 2006)
  - Consumer Testing Methods (April-June 2006)
  - Application of Sensory Science and Consumer Testing Principles (July-Sept. 2006)

### **MEMBERSHIPS**

- 2012-present: American Association for the Advancement of Science (AAAS)
- 2007-present: American Chemical Society (ACS)
- 2007-present: American Association of Candy Technologists (AACT)
  - Rocky Mountain Section
- 2006-present: Institute of Food Technology (IFT)
  - Bonneville Section
- 2004-2006: Toastmasters International
- 1999-present: American Oil Chemists’ Society (AOCS)