

## ***EDGAR CHAMBERS IV***

Kansas State University - Ice Hall  
1310 Research Park Drive  
Manhattan, KS 66502  
Phone: (785) 532-0156  
e-mail: [eciv@ksu.edu](mailto:eciv@ksu.edu)

### **EDUCATION:**

Ph.D. Sensory Analysis, Kansas State University – 1980

M.S. Foods and Nutrition, Kansas State University – 1979

B.S. Food Science, University of Tennessee – 1977

Postgraduate courses: Psychology and Behavior, Washington University (St. Louis) -1983-84

### **PROFESSIONAL EXPERIENCE:**

**University Distinguished Professor of Sensory Analysis and Consumer Behavior and Director, and Director, Sensory Analysis Center**, Dept. of Human Nutrition, Kansas State University, Manhattan, KS, 1988-present (promoted to Professor 1993, named Distinguished Professor 2008)

Direct M.S. and Ph.D. students and teach courses in sensory analysis, consumer behavior and evaluation, and food trends. Direct projects and staff at 2 facilities in Manhattan KS and Olathe, KS conducted by professionals, graduate students, technicians, and clerical workers to ensure collection, analysis, and reporting of data for projects including development, marketing, advertising, quality assurance, and legal issues. Projects include categories such as food, cosmetics, packaging, textiles, pharmaceuticals, paint, and paper.

**Consultant (Sensory Analysis and Statistics)**, 1985- Present

Various product evaluation, statistical, and expert analysis projects on food, beverages, paper, paint and other consumer goods for companies such as: Clorox, Pfizer, Avon, General Mills, DuPont, Schering-Plough HealthCare, Gerber Corp., and others.

**Manager, Sensory and Statistical Analyses, The Seven Up Company (Headquarters)**, St. Louis, MO. 1981-1985

Responsible for the design and analysis of sensory and consumer evaluation projects, development of products using computer-assisted modeling, and training personnel in statistical analysis. Managed personnel who conducted studies on shelf-life, new product quality, ingredient substitution, and sensory quality assurance.

### **OTHER PROFESSIONAL ACTIVITIES (emphasis on last 10 years)**

**Editor-in-Chief**, Journal of Sensory Studies 2009-present

**Editor-in-Chief**, Beverages, 2014-present

**Editorial Boards:** Kasetsart (Thailand) Journal of Natural Sciences  
Food in Health and Disease  
Foods

## **EDGAR CHAMBERS IV, cont.**

**Research Article Reviews** - Food Quality and Preference, Journal of Food Science, Food Technology, Cereal Chemistry, Lebensmittel Wissenschaft und Technologie, African Journal of Biotechnology, Color Research and Applications, International Journal of Nutrition and Metabolism, Chiang Mai Journal of Science, Chemistry Central, and others

**Grant Reviews** – NASA Food Quality for Astronauts Grants panel (Chair, 2009-2013), USDA Hispanic Serving Institutions Grants Panel, USDA Small Business Development Grants Reviews (multiple); Cornell University, Univ. of Missouri, and Texas A&M Competitive/Peer Grants Reviews; USDA peer reviews,

**Scientific Advisory Committees** – Pangborn International Sensory Sciences Symposium, 2003, 2005, 2009; International Program in Sensory Evaluation (Vietnam) – 2009; 2012; ProPak Asia, 2009; Society of Sensory Professionals 2008, 2010

**Conference Organizing Committees** - USDA CSREES committee to establish obesity research priorities, 2004; International Conference on Food Technology and Processing, Hyderabad, India, 2012; Society of Sensory Professionals 2008, 2010, 2012

USDA/Society for Nutrition Education, Chair, “Working Group 3” on Research in the Food Stamp Nutrition Education Program, 2003

USDA Economic Research Service (USDA-ERS) committee to establish research priorities, 1999  
Scholarship Committee Chairman - American Italian Pasta Co. 1992-2004

## **HONORS AND HONORARY SOCIETIES:**

Meritorious Paper for Applied Research, American Speech and Hearing Association, 2014, (with J. Garcia)

Named International Educator of the Year, 2011, Kansas State University

Named Honorary Citizen of Nueva de Julio, Argentina, 2010

Named “University Distinguished Professor” – Kansas State University, 2008

Outstanding Paper in Marketing & Culture, World Tea Association, 2007 (with D. Chambers and J. Lee)

David R. Peryam Award, 2006 (highest award in the field of Sensory Analysis)

Named “Fellow” of ASTM International and received Society Award of Merit, 2006

Named “Distinguished Graduate Faculty” – Kansas State University, 2005

Outstanding Paper in Nutrition and Health, Joint Association of Extension Administrators/Association of Research Directors, 2005 (with S. Godwin and R. Coppins)

Research Excellence Award, College of Human Ecology, Kansas State University, 2004, 1998

Certificate of Appreciation, Korean Society of Food Science and Nutrition, 2004

Outstanding Paper, Association of Research Directors, 1997 (with S. Godwin)

Who’s Who in Science and Engineering, 1997, 1998

Award of Merit (1993), Certificate of Appreciation (1989), ASTM Committee on Sensory Evaluation

Leadership award, Omicron Nu - Kansas State University, 1992

Alumni Distinguished Service Award, Kansas State University, 1985

General Foods Fellow, 1977-78

Sigma Xi, Omicron Delta Kappa, Omicron Nu, Phi Kappa Phi, Phi Eta Sigma, Phi Tau Sigma

National 4-H Food-Nutrition Winner, 1972

## **EDGAR CHAMBERS IV, cont.**

### **PROFESSIONAL ORGANIZATIONS:**

Society of Sensory Professionals – Chair, 2007-2009; Board member 2009-Present.  
American Society for Testing and Materials (ASTM) - Sensory Evaluation Division, Chairman, 1995-97; Vice-Chairman 1992-95; Executive committee (since 1986); Chairman, Awards and Nominations committees 1998-2002 on-going member of those committees; member, Division on Appearance of Materials, 1990-Present  
Royal Institute of Thailand, International Representative to Expert Committee on Sensory Evaluation, 2008-present  
ISO (International Standards Organization) Technical Committee 12 on Sensory Evaluation, one of several US. Representatives 1992-present, currently Chair, Working Group on Sensory Claims Substantiation  
Institute of Food Technologists (IFT) - speaker for the 2002, 1992, and 1989 Sensory Division Symposia; 1990 technical workshop at National meeting; Secretary, St. Louis section (1985-86), member 1977-2006  
American Association of Textile Chemists and Colorists (AATCC) - member of technical committee RA-89 on Hand Evaluation of Textiles 1988-present  
Marketing Science Association - Associate (Academic) member 1997-2009  
Advertising Research Foundation - Institutional member representative: 1999-2009

### **SHORT COURSES TAUGHT/OTHER UNIVERSITY ACTIVITIES:**

“Coffee Flavor Workshop”, KSU in collaboration with World Coffee Research and Texas A&M, Olathe, KS, 2014  
“Beef Flavor Workshop”, KSU in collaboration with the Beef Checkoff and Texas A&M, Olathe, KS, 2013  
“Advertising claims: Strategic Development and Practical Applications”, New Jersey. In cooperation with Sensory Spectrum, 2012, 2013  
Graduate Study Tour – “Food, Textiles, and Culture - India", India, 2013 (to be held in November)  
Graduate Study Tour – “Food Development and Marketing in Thailand", Thailand, 2011  
Graduate Study Tour – “Food Development and Marketing in Argentina”, Argentina, 2010  
Graduate Study Tour – “Food Development and Marketing in Korea”, Korea, 2008  
“Practical Consumer Testing” – Shanghai, China, 2007  
“Market Development for Cheese: Flavor Options” (with D. Chambers) – Suncheon, Korea, 2007  
Graduate Study Tour – “Food Development and Marketing in Thailand”, Bangkok Thailand, 2006  
Visiting Professor, Assumption University, Bangkok, Thailand, 4 week intensive 3 credit course “Sensory Evaluation”, 2006  
"Consumer Testing" - Morristown, NJ, in cooperation with Sensory Spectrum, Inc., 1987 (twice), 1989, 1990, 1991, yearly 1993-2007  
“Consumer Sensory Evaluation” – Bangkok, Thailand, 2003.  
"Statistics for Sensory Analysis-Basic and Advanced"-Morristown, NJ, in cooperation with Sensory Spectrum, Inc., yearly 1989-2004  
“Management for Sensory Analysis” - Savannah, GA, in cooperation with Sensory Spectrum, 2000

## **EDGAR CHAMBERS IV, cont.**

“Product Development for the Low Calorie Food Market” - Malaysia; Thailand; Indonesia;  
Sponsored by the U.S. Agency for International Development, 1995

"Teaching Sensory Analysis" - Kansas State University, in cooperation with USDA and other  
university faculty. 1993, 1994

"Product Testing by Consumers" - Kansas State University, in cooperation with other industry  
representatives, 1988

"Multivariate Statistics" - The Seven-Up Co. and Philip Morris, Inc., 1984

"Basics of Sensory Analysis" - Kansas State University, in cooperation with faculty, 1982, 1983

Guest Lecturer - Tennessee State University Annually 1994-present

Guest Lecturer - Alabama A&M University, 1994

Guest Lecturer - Southeast Missouri State University - Annually 1981-1989

Visiting Professor, - University of Missouri - 1985

Visiting Instructor, University of Alabama, 1981

## **GRADUATE STUDENT ADVISING**

Doctoral Students Completed – 15

Doctoral Students in Progress – 5

Master’s Students Completed – 28

Master’s Students in Progress - 2

Graduate Student Awards:

2 students (4 total) asked to present a workshop at the Specialty Coffee Conference, 2015

1st Place – Society of Sensory Professionals “Research Methods”, 2014

1st Place – “Best Paper” Engineering and Processing Division, AACCI, 2012

1st Place – Society of Sensory Professionals “Innovation in Research”, 2010

1st Place – International Sensory Project Design Competition (Team of 2 students) - 2009

1st Place – Institute of Food Technologists Sensory Division Scholarship – 2008

1st Place – Society of Sensory Professionals “Methods Development”, 2008

1st Place – International Sensory Project Design Competition (Team of 5 students) - 2007

1st Place – International Sensory Project Design Competition (Team of 5 students) - 2006

1st Place – International Sensory Project Design Competition (Team of 6 students) - 2005

1st Place – KSU Food Science Research Paper Competition – 2004

1st Place – KSU Graduate Student Paper Competition – Social Sciences - 2003

1st Place – Institute of Food Technologists Sensory Grad. Res. Paper competition, 2002.

1st Place – Institute of Food Technologists Sensory Grad. Res. Paper competition, 2001.

1st Place – Institute of Food Technologists Sensory Grad. Res. Paper competition, 1999.

1st Place – Cherry Marketing Board Product Development Competition, 1997

2nd Place – Institute of Food Technologists Sensory Grad. Res. Paper competition, 1996.

2nd place – Amer. Assoc. Textile Chemists and Colorists Grad. Res. Paper comp., 1994

Finalist – Institute of Food Technologists Sensory Grad. Res. Paper competition, 1993.

2nd place – Institute of Food Technologists Overall Grad. Res. Paper Competition, 1992

Graduate Student Internships secured:

Mars Petcare – 2 internships - 3 months, 2 internships – 6 months

InBev (Anheuser Busch) – 2 internships – 6 months

Nestle’ Foods, /Columbus Ohio – 1 internship for 6 months, 1 for 12+ months

Nestle’ Child Nutrition (Gerber) - 3 internships – 6 months

## **EDGAR CHAMBERS IV, cont.**

Procter & Gamble – 3 months  
McCormick Seasoning – 3 internships – two for 3 months, one for 5 months  
Moskowitz Jacobs Marketing Research, New York – 7 months  
S.C. Johnson, Racine, Wisc – 7 months  
Sensory Spectrum, Chatham, NJ – 2 internships - 6 months each  
Pepsico Intl, 4 International Locations – 12 months  
Frito-Lay International, Bangkok, Thailand – 6 months  
Unilever, Connecticut – 3 internships, 6-11 months each  
Unilever, Chicago – 3 internships – 6-12 months each  
Avon Products, Suffern, NJ – 2 internships - 3 months  
Kelloggs, Battle Creek, MI – 6 internships – 6-11 months each  
Fleischman Hilliard, Kansas City – 6 months  
General Mills, Minneapolis, MN – 7 months  
Nabisco, East Hanover, NJ – 3 months  
Coors, Golden, CO – 3 months  
Bush Brothers, Knoxville, TN – 3 internships - 3 months each  
Cadbury Schweppes, CT – 3 months  
Schick Wilkinson Sword, Milford CT - 4 internships – 1 for 3 months and 3 for 12 months  
ConAgra, Lincoln, NE – 3 internships – 1 for 9 months and 4 for 3 months  
Peryam & Kroll Market Research, Chicago – 6 months  
M&M Mars, Hacketstown, NJ – 3 months  
Hills Pet Foods, Topeka, KS – 6 months

## **UNDERGRADUATE STUDENT RESEARCH**

Joint advising of approximately 6 Human Ecology Honors Program students with Jane Garcia (major advisor). All completed research and papers were published in high impact referred journals.

Advisor for 3 university SUROP students - one later came to KSU for both MS and PhD degrees.

## **PRESENTATIONS:**

- “Motivations for breakfast: Hunger or pleasure?” 11th International Pangborn Sensory Sciences Symposium, 2015, Gothenburg, Sweden
- “Recommendations for Determining Doneness Found in Egg Dish Recipes” European Symposium on Food Safety, 2015, Cardiff, Wales
- “Purchase, Storage, and Preparation of Eggs and Poultry in the United States Compared to Selected European Countries” European Symposium on Food Safety, 2015, Cardiff, Wales
- “The value of food”, Pusan National University Research Symposium, 2015, Busan, Korea
- “Consumer Behavior When Shopping for and Storing Poultry May Result in Cross-Contamination” European Symposium on Food Safety, 2015, Cardiff, Wales (presented by co-author)
- “Americans' Food Safety Practices for Raw Poultry and Shell Eggs: Areas for Improvement” European Symposium on Food Safety, 2015, Cardiff, Wales (presented by co-author)

## **EDGAR CHAMBERS IV, cont.**

- “Impact of an Educational Sign on Consumer Use of Plastic Bags for Raw Poultry” International Association of Food Protection Annual Meeting, 2015, Portland, OR (presented by co-author)
- “Consumer Behavior towards Leftover Storage in American and European Countries” International Association of Food Protection Annual Meeting, 2015, Portland, OR (presented by co-author)
- “Assessment of Temperature at Recommended Methods of Determining Doneness in Egg Recipes” International Association of Food Protection Annual Meeting, 2015, Portland, OR (presented by co-author)
- “Consumers’ Cooking Practices for Eggs and Poultry Place Them at Risk for Foodborne Illness” International Association of Food Protection Annual Meeting, 2015, Portland, OR (presented by co-author)
- “Relating Coffee Consumption Routines to Emotions Derived From the Coffee Drinking Experience”, Institute of Food Technologists Annual meeting, 2015, Chicago, IL (Presented by co-author)
- “Unraveling the grind: do emotions influence coffee drinking?” CoCoTea, 2015, Aveiro, Portugal (presented by co-author)
- “Using wordle™ to analyze CATA data: An example with olive oil” 11th International Pangborn Sensory Sciences Symposium, 2015, Gothenburg, Sweden (presented by co-author)
- “Applications of a dry dog food sensory lexicon” 11th International Pangborn Sensory Sciences Symposium, 2015, Gothenburg, Sweden (presented by co-author)
- “Development of a Coffee Lexicon for research” 11th International Pangborn Sensory Sciences Symposium, 2015, Gothenburg, Sweden (presented by co-author) “Development and Validation of Screening Tools for Classifying Consumers Based on Healthy Eating Criteria” 4<sup>th</sup> Society of Sensory Professionals Conference, 2014, Tucson, AZ
- “Sensory Changes with Aging and Their Impact on Everyday Life”, Health and Wellness in Aging Conference, 2014, Pusan National University, Busan, Korea
- “From Store to Fridge: Findings from U.S. Shop-a-Long Grocery Store Interviews on Consumer Handling of Raw Poultry”, Intl Assoc Food Protection, I2014, Indianapolis
- “Food Security, Sustainability, and Consumers”, International Conference on Sustainable Global Agriculture and Food Security, 2014, Bangkok, Thailand
- “Sensory Changes with Aging”, Florida Health Care Activity Coordinators Annual conference, 2014, Dayton Beach Fl
- “Understanding Issues of Dysphagia Patients in Group Activity Settings”, Florida Health Care Activity Coordinators Annual conference, 2014, Dayton Beach Fl
- “Innovation and Development: The Customer Value Proposition”, Food Innovation Asia, Bangkok, Thailand, 2014,
- “Issues in Food Safety Related to Consumers’ Storage and Use of Leftover Food in Thailand”, Food Innovation Asia, 2014, Bangkok, Thailand
- “Sensory Analysis: Moving the Marketplace Ahead”, Campbell Research Symposium, 2014, Camden, NJ
- “Quality and It’s Measurement”, Campbell Research Symposium, 2014. Camden, NJ
- “Salt: It’s Importance in Food”, Pusan National University Research Seminar, 2014, Pusan, Korea
- “Creating New Beverages: Establishing Consumer Value”, Suncheon National University Research Seminar, 2014, Suncheon, Korea

## **EDGAR CHAMBERS IV, cont.**

- “Salt: It’s Importance in Food”, Suncheon National University Research Seminar, 2014, Suncheon, Korea
- “Issues in Product Testing in Multiple Countries”, University of Helsinki, 2014, Helsinki, Finland
- “How Does Product Preparation Affect Sensory Properties: An Example with Coffee”, 4th Society of Sensory Professionals Conference, 2014, Tucson, AZ (Presented by Co-Author)
- “What Happens to the Product when Consumers don’t Follow Preparation Instructions? An Example of a Descriptive Sensory Tolerance Test for Cooked Porridge”, 4<sup>th</sup> Society of Sensory Professionals Conference, 2014, Tucson, AZ (Presented by Co-Author)
- “Evaluation of Chicken Meat Juice on Hands, Chicken Packages and Contact Surfaces During and After Grocery Shopping”, Intl Assoc Food Protection, 2014, Indianapolis (Presented by co-author)
- “Food Thermometer Usage among Consumers Who Cook Raw Poultry: Results of a National Survey”, Intl Assoc Food Protection, 2014, Indianapolis (presented by co-author)
- “Effect of Storage Temperatures on the Survival of Salmonella and Campylobacter in Chicken Eggs”, Intl Assoc Food Protection, 2014, Indianapolis (presented by co-author)
- “Measuring Complexity”, Givaudan Global Research Seminar, 2013, Cincinnati, OH
- “Flavor Complexity: Beyond Individual Attributes”, 10<sup>th</sup> International Pangborn Symposium, 2013. Rio de Janeiro, Brazil
- “Effects of Processing on Pomegranate Juice Flavor using a semi-continuous profile method for flavor evaluation during consumption, 10<sup>th</sup> International Pangborn Symposium, 2013. Rio de Janeiro, Brazil
- “Differences among Colombian Coffee from the Pitalito Area”, Mild Coffee Company seminar, 2013, Neiva, Colombia
- “Consumer Food Safety: Global Interest and Individual Realities”, Global Food Safety Conference, 2013, Barcelona, Spain
- “Sensory Testing Across Cultures and Countries: An Asian Perspective”, Thailand Sensory Network/Kasetsart Annual Research Conference”, 2013, Bangkok, Thailand
- “Visualizing thickened liquids with low-tech clinical tools: Applications for caregiver training” American Speech-Language Hearing Association Annual Meeting, 2013, Chicago, IL (presented by co-author)
- “Previous Exposure to Food Does Not Influence Subsequent Food Choice In Dogs”, Society for the Study of Ingestive Behavior, 2013, New Orleans (Presented by Co-Author)
- “Understanding what drives pet owners’ liking of dog foods”, Pet Food Forum, 2013, Chicago, IL (Presented by Co-Author)
- “Sensory Analysis and Product Development”, University SurColombiana Engineering Research Symposium, 2012, Neiva, Columbia
- “Thickened Liquids: Taking Responsibility for What our Patients Consume”, ½ day presentation with J. Garcia, American Speech-Language Hearing Association Annual Meeting, 2012, Atlanta, GA
- “Understanding International Consumer Needs and Testing Strategies For Food Product Development”, USDA International Science and Education Conference, 2012, Washington D.C.

## **EDGAR CHAMBERS IV, cont.**

- “Role of Sensory Evaluation in Quality Assurance and Shelf Life Prediction in Food Aid Products such as CSB, SSB, SCB”, USDA and USAID meeting on Food Aid Grants, 2012, Manhattan, KS
- “Understanding Flavor Complexity: What Individual Attributes Can’t Tell”, 3rd Society of Sensory Professionals Annual Conference, 2012, Jersey City, New Jersey
- “Measuring Beef Flavor”, Meat Science Seminar, 2012, Manhattan, KS
- “Understanding Products’ Sensory Characteristics Before Launch can Predict Success: A Global Study”, 4th SPISE conference, 2012, HoChi Minh City, Vietnam
- “Testing Across Cultures and Countries: a Forum” (Leader), 4th SPISE Conference, 2012, Ho Chi Minh City, Vietnam
- “In-Person Interviews of Storage Practices for Ready-To-Eat Foods in Four U.S. States”, 7th International Food Safety Conference, 2012, Dubai, UAE
- “Data Handling for Consumer Personality Segmentation”, 3rd Society of Sensory Professionals Annual Conference, 2012, Jersey City, New Jersey (Presented by Co-Author)
- “A Comparison of Two Multivariate Techniques to Analyze Descriptive Data from Seasoned Beef Samples” 3rd Society of Sensory Professionals Annual Conference, 2012 Jersey City, New Jersey (Presented by Co-Author)
- “Using Sensory Methods to Examine Differences in Cooking Methods for Porridge Products Used in United States International Food Assistance Programs” 3rd Society of Sensory Professionals Annual Conference, 2012, Jersey City, New Jersey (Presented by Co-Author)
- “Brown Rice: Cultural Effects on Consumer Perceptions and Beliefs” 4th SPISE Conference, 2012, HoChi Minh City, Vietnam (Presented By Co-Author)
- “Novel sorghum-based fortified blended food for infants, young children, and adults”, AACC International annual meeting, 2012, Hollywood, FL (Presented by co-author)
- “Sensory Analysis of Specialty Products”, Estonian Product Development Conference, 2011, Tallinn, Estonia
- “Nutritional Well-Being of Elderly People with Dysphagia (Impaired Swallowing), Suncheon University Seminar, 2011, Suncheon, South Korea
- “Consumer Based Product Development of Functional Foods: The Case of Grain Sorghum”, 2nd International Congress on Food and Function, 2011, Kosice, Slovakia
- “Comparison of Pomegranate Juice Acceptance Globally”, 2nd International Conference on Pomegranate, 2011, Madrid Spain
- “Flavor Diversity and Acceptance of Estonian Cheeses” 8th International Cheese Symposium, 2011, Cork, Ireland
- “A Chemical Reference for Storage Musty when Grading Grain Odor” – USDA National Sorghum Advisory Board Workshop, 2011, Kansas City, MO
- “Embracing Cultural and Diverse Foodways” workshop, 102nd American Association of Family and Consumer Sciences Annual meeting, 2011, Phoenix, AZ (one of 3 speakers)
- “Research: A Primer”, Tennessee State University Family and Consumer Sciences Seminar, 2011, Nashville, Tennessee
- “Color Shading – Dyeing Methods for Wool and Silk”, Prairie Star Quilt Guild, 2011, Manhattan, KS



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- “The effect of pomegranate albedo extract on the total phenolic content and sensory profiles of five commercial pomegranate juices”, Institute of Food Technologists Annual Meeting, 2011, New Orleans, LA, Presented By Co-Author
- “Farm to fork: Using all stages of the production cycle to help establish sensory standards”, 10th Bi-Annual Pangborn International Sensory Sciences Conference, Toronto, Canada, 2011, Presented By Co-Author
- “Defining and characterizing the "Nutty" attribute across food categories”, 10th Bi-Annual Pangborn International Sensory Sciences Conference, Toronto, Canada, 2011, Presented By Co-Author
- “The USDA Grain Grading Process and its relation to Sensory Analysis”, 2nd Society of Sensory Professionals Annual Conference, 2010, Napa, California
- “Impact of 6-*n*-propylthiouracil (PROP) bitter sensitivity on the liking of bitter functional foods and dietary intake”, 4th European Conference on Sensory and Consumer Research, 2010, Vitoria, Spain
- “Understanding Panelist Performance”, Joint Nestlé/General Mills International Symposium, 2010, Minneapolis, MN
- “Sensory Evaluation Application by US Food Manufacturers”, Update of Sensory Evaluation Symposium, 2010, Kuala Lumpur, Malaysia
- “Role of Sensory Evaluation in Quality Assurance, Branding and Shelf Life Prediction”, Update of Sensory Evaluation Symposium, 2010, Kuala Lumpur, Malaysia
- “Publishing in High Quality International Journals”, Universiti Kebangsaan Malaysia Faculty of Science and Technology Research Symposium, 2010, Kuala Lumpur, Malaysia
- “Using Sensory Analysis to Evaluate Products”, 3rd Estonia-Finland Bilateral Product Development and Marketing Symposium, 2010, Tallin, Estonia
- “Case Studies of Sensory Evaluation in the Product Development and Maintenance Process, 3rd Estonia-Finland Bilateral Product Development and Marketing Symposium, 2010, Tallin, Estonia,
- “Diet Modifications Related to Dysphagia & Nutrition”, Kansas Speech Hearing Association, 2010, Topeka, KS
- “Sensory Analysis of Mangos of Different Varieties and Ripeness”, International Congress of Food Science and Technology, 2010, Cape Town, South Africa
- “What Fruits/Vegetables are Americans Eating? An In-Depth Examination of Fruit/Vegetable Consumption among Three Ethnic Populations”, 2nd Society of Sensory Professionals Annual Conference, 2010, Napa, California, Presented By Co-Author
- “Full Product Profile Graphing over the Duration of a Single Bite”, 2nd Society of Sensory Professionals Annual Conference, 2010, Napa, California, Presented By Co-Author
- “Differences in Preference Mapping Techniques”, 2010, 2nd Society of Sensory Professionals Annual Conference, Napa, California, Presented By Co-Author
- “Predicting Product Success Internationally Using Information Known Before Launch”, 2nd Society of Sensory Professionals Annual Conference, 2010, Napa, California, Presented By Co-Author
- “Researching Green Tea: Information to Improve Market Presence in Various Countries”, 2nd Society of Sensory Professionals Annual Conference, 2010, Napa, California, Presented By Co-Author

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- “Lexicon development for Beef Flavor across Different Muscles and Quality Grades”, 2010, 2nd Society of Sensory Professionals Annual Conference, Napa, California, Presented By Co-Author
- “Effect of Familiarity on Lexicon Development of Trained Sensory Panelists in Thailand and the United States of America”, 2010, 2nd Society of Sensory Professionals Annual Conference, Napa, California, Presented By Co-Author
- “Musty Compounds in Sorghum and how they are Perceived by a Trained Panel”, 2010, 2nd Society of Sensory Professionals Annual Conference, Napa, California, Presented By Co-Author
- “Relationship of Consumers’ Food Related Attitudes to differences in Hedonic Ratings of Jerky Products”, 2010, 2nd Society of Sensory Professionals Annual Conference, Napa, California, Presented By Co-Author
- “Developing a Multi-Country Reference System for Cheese”, 2010, 2nd Society of Sensory Professionals Annual Conference, Napa, California, Presented By Co-Author
- “Calidad Sensorial de la Granada y los Productos Derivados” (Sensory Quality of Pomegranate and its By-Products”, 1st National Congress on Pomegranate: Production, Economics, Industrialization, Diet, and Health, 2010, Elche, Spain, Presented By Co-Author
- “Perfil Aromático de Zumos de Granada Procedentes de los Estados Unidos: Diferencias entre Zumo Recién Exprimido y Zumos Comerciales” (Aromatic Profile of Pomegranate Juice in the US: Differences in Fresh-Squeezed and Commercial Juices), 1st National Congress on Pomegranate: Production, Economics, Industrialization, Diet, and Health, 2010, Elche, Spain, Presented By Co-Author
- “Características Físico-Químicas y Sensoriales de Zumos de Granada con Diferentes Porcentajes de Extracto de Corteza.” (Sensory and Physical-Chemical characteristics of Pomegranate Juices with Added Peel”. 1st National Congress on Pomegranate: Production, Economics, Industrialization, Diet, and Health, 2010, Elche, Spain, Presented By Co-Author
- “Lexicon to Describe The Flavor of Pomegranate Juice” Institute of Food Technologists, 2010, Chicago, Ill. Presented By Co-Author
- “Few Differences in Sensory or Chemical Composition of Organic or Conventionally Grown Pac Choi (Bok Choy) During 18 Days of Refrigerated Storage”, 4th European Conference on Sensory and Consumer Research, 2010, Vitoria, Spain. Presented By Co-Author
- “The Potential for Cross Contamination of Foods through Improper Storage in Home Refrigerators”, International Association for Food Protection. 2010, Anaheim, CA. Presented By Co-Author
- “Impact of Organic Production and Fertilizer Variables on Sensory Properties of Pac Choi and Tomato” International Congress of Food Science and Technology, 2010, Cape Town, South Africa. Presented By Co-Author
- “Sensory Characteristics Of Thai Mangoes: Effects Of Variety And Ripeness”, 9th International Mango Conference, Sanya, China, 2010, Presented by Co-author
- “Evaluation of Condiment Sauces Containing Chili Peppers”, International Symposium on Nutraceuticals and Processing of Condiment Vegetables, 2009. Suncheon, Korea
- “The Science of Smell and its Impact on Grain Odor”, American Association of Grain Inspection and Weighing Agencies, Memphis, TN, 2009; also USDA Sorghum Technical Meeting, Kansas City, MO, 2009; also USDA Grain Inspection Management Symposium, Kansas City, MO, 2009

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- “Testing Products Around the World: Practical Issues and Answers”, ASTM International Symposium, Vancouver, Canada, 2009
- “Observational Research: A Tool for Collecting Behavioral Data and Validating Surveys”, SPISE conference “Food Consumer Insights in Asia, Ho Chi Minh City, Vietnam, 2009
- “Impact of Processing on Sensory Properties of Fresh Tomatoes” SPISE conference “Food Consumer Insights in Asia, Ho Chi Minh City, Vietnam, 2009
- “Developing References for Descriptive Sensory Analysis that Cross Cultures”, Food Innovation Asia, Bangkok, Thailand, 2009
- “Awareness of International/Ethnic Foods among Consumers in Bangkok, Thailand” Food Innovation Asia, Bangkok, Thailand, 2009
- “Intrinsic and Extrinsic influences on Food Acceptance” - Thailand Sensory Network, 2nd Annual meeting, Bangkok, Thailand, 2009
- “Practical Sensory Analysis for Problem Solving” – PepsiCo Thailand, Bangkok, Thailand, 2009
- “Human Perception of swallowing: Analysis by Trained Sensory Panelists”, American Speech-Language Hearing Association Annual Meeting, New Orleans, LA, 2009, Presented By Co-Author
- “Awareness of International/Ethnic Foods among U.S. Consumers in Manhattan, Kansas”, Institute of Food Technologists Annual Meeting, Anaheim, CA, 2009, Presented By Co-Author
- “Green Coffee Beans to Brewed Coffee: Evolution of Aroma Attributes”, SPISE conference “Food Consumer Insights in Asia, Ho Chi Minh City, Vietnam, 2009, Presented By Co-Author
- “The Impact of Food Information on Consumer Acceptance Scores for Beef Jerky with Thailand, Korea or US Consumers” 9th Bi-Annual Pangborn International Sensory Sciences Conference, Florence, Italy, 2009, Presented By Co-Author
- “A comparison of Preference Mapping Techniques” 9th Bi-Annual Pangborn International Sensory Sciences Conference, Florence, Italy, 2009, Presented By Co-Author
- “Sensory Analysis in the Development of Healthful Foods and Lifestyles”, ProPak 2008, Food Innovation Conference, Bangkok, Thailand, 2008
- “Sensory Analysis and Specialty Product Development”, Korea Atomic Energy Research Institute”, Daejeon, Korea, 2008
- “Using Consumers or Trained Panelists to Describe the Eating Experience Of Products”, Society Of Sensory Professionals, Cincinnati, OH, 2008
- “Influence of Intrinsic and Extrinsic Product Information on Consumer Assessment of Food”, International Congress of Food Science and Technology, Shanghai, China, 2008
- “Using Sensory Analysis to Understand Products, Services, and Information”, Tennessee State University Family and Consumer Sciences Seminar, Nashville, TN, 2008
- “Sensory Sciences Today: Summary” Society of Sensory Professionals, Cincinnati, OH, 2008
- “Descriptive Sensory Analysis Of Toothpaste Flavor & Texture Using Two Distinct Sampling Methods: Brushing Vs. Spoon Tasting”, Society of Sensory Professionals, Cincinnati, OH, 2008, Presented By Co-Author
- “Describing Flavor Using Fewer And Simpler Terms: An Example with Cheese”, Society of Sensory Professionals, Cincinnati, OH, 2008, Presented By Co-Author
- “Sensory Characteristics Of Bananas, Society Of Sensory Professionals, Cincinnati, OH, 2008, Presented By Co-Author

### **EDGAR CHAMBERS IV, cont.**

- “Beyond Products: Application of Sensory Analysis for Diverse Opportunities, Society of Sensory Professionals, Cincinnati, OH, 2008, Presented By Co-Author
- “A Lexicon for Lip Products, Society of Sensory Professionals, Cincinnati, OH, 2008, Presented By Co-Author
- “Adjusting Texture Scale References for Asian Markets, Society of Sensory Professionals, Cincinnati, OH, 2008, Presented By Co-Author
- “Response Time: Does It Add Information to Acceptance, Society of Sensory Professionals, Cincinnati, OH, 2008, Presented By Co-Author
- “Perceptual Sensory Mapping of Green Teas from Various Countries”, International Congress of Food Science and Technology, Shanghai, China, 2008, Presented by Co-Author
- “Thickened Beverages: Roles & Knowledge of Various Caregivers In Long-Term Care Settings”, American Speech-Language Hearing Association Annual Meeting, Chicago, IL, 2008, Presented By Co-Author
- “A Comparison of Green Tea Preference Maps for Consumers in three Countries” IFT Annual Meeting, New Orleans, LA, 2008, Presented by Co-Author
- “Effective Advertising Claims Substantiation Using Multiple Data Sources”, Pangborn Bi-Annual International Sensory Sciences Symposium, Minneapolis, MN, 2007
- “Sensory Characteristics of Fresh Tomatoes and the Impact of Processing on the Sensory Characteristics of Tomatoes” - Pangborn Bi-Annual International Sensory Sciences Symposium, Minneapolis, MN, 2007
- “Consumer Acceptability of Green Tea in Three Countries”, 3rd International Conference on Tea, Shizuoka, Japan, 2007
- “Sensory Properties and Consumer Segmentation for Sweet Tamarind Varieties Grown In Thailand”, 2nd Conference on Sensory Evaluation, Ho Chi Minh City, Vietnam, 2007
- “Portion Size Estimation is not Dependent on Weight Status“, 10th European Nutrition Conference, Paris, France, 2007
- “Advertising Claims Substantiation: Integration of Sensory and Instrumental Data”, Midwest Association of Official Analytical Chemists – Chicago, 2007
- “Mapping Sensory Properties And Consumer Acceptance: A Case Study”, KSU Department Of Horticulture, Forestry, And Recreation Resources Seminar, Manhattan, KS, 2007
- “Sensory Characteristics Of Lactose-Free Milks: Comparison with Regular Milks”, Pangborn Bi-Annual International Sensory Sciences Symposium, Minneapolis, MN, 2007, presented by co-author
- “Comparison of Sensory Properties of UHT Milk from Different Countries”, IFT Annual Meeting, Chicago, IL, 2007, Presented by Co-Author
- “A Lexicon for Sensory Texture and Flavor Characteristics of Fresh and Processed Tomatoes” – IFT Annual Meeting, Chicago, IL, 2007, Presented by Co-Author
- “Line Spread Test Comparisons of Nectar and Honey-Like Beverages” American Speech-Language Hearing Association Annual Meeting, Boston, MA, 2007, Presented By Co-Author
- “Flavor and Volatile Compound Changes of Green Tea When Infused Multiple Times”, 3rd International Conference on Tea, Shizuoka, Japan, 2007, Presented by Co-Author
- “Green Tea Flavor: Descriptive Analysis of World Samples”, 3rd International Conference On Tea, Shizuoka, Japan, 2007, Presented by Co-Author, Best Paper Award
- “Flavor in Foods” – Distinguished Graduate Faculty Lecture – Kansas State Univ., 2006

## **EDGAR CHAMBERS IV, cont.**

- “Product Innovation” – Keynote Address for 8th Agro-Industrial Conference, Bangkok, Thailand, 6/2006
- “Sensory Opportunities: Sensory Strategies for Product Development and Marketing” – Plenary Lecture - Prepared Foods New Products Conference, Amelia Island, FL, 2006
- “Sensory Analysis from Product Concept to Market Maintenance” – Keynote Address for 1st Thailand Sensory Network meeting, Bangkok, Thailand, 1/2006
- “Advertising Claims: Going Beyond ‘I’m Better than You’ – Coca-Cola International Sensory Research Conference, Orlando, FL, 2006
- “Sensory Evaluation in Product Development” – Thammasat University Seminar, Rungsit, Thailand, 2006
- “Consumers’ Use and Understanding of Product Dates On Ready-To-Eat Foods” - Food Distribution Research Society Annual Meeting, Quebec City, Canada, 2006, Presented by Co-Author
- “Measuring differences in perception of portion sizes as a potential contribution to obesity” American Dietetic Association Annual Meeting, Honolulu, 2006, presented by Co-author
- “Nectar and Honey-Thick Beverages Prepared By Health Care Providers” - American Speech-Language Hearing Association Annual Meeting, Miami Beach, FL, 2006, Presented By Co-Author
- “Flavor Characteristics of Commercial Fresh and Dried Mushrooms” – IFT Annual Meeting, Orlando, FL, 2006, Presented by Co-Author
- “Impact of 6-N-Propylthiouracil (PROP) Bitter Sensitivity on the Likeability of bitter functional foods and Dietary Intake” - IFT Annual Meeting, Orlando, FL, 2006, Presented by Co-Author
- “Basic Food Marketing - Understanding the Consumer” – Chulalongkorn University Senior Food Science Seminar, Bangkok, Thailand, 2005
- “Advertising Claims Substantiation” - Procter and Gamble Business and Research Symposium, Cincinnati, OH, 2005
- “Current Brand Equity for National, Regional, and Private Label Brands for Two Foods and One Paper Product” – 5th International Conference on Culinary Arts and Sciences, Warsaw, Poland, 2005
- “Practical Issues Associated With The Use Of Thickened Liquids For Patients With Dysphagia” 11th Congress of the Parenteral and Enteral Nutrition Society of Asia, Seoul, Korea, 2005
- “Sensory Evaluation of Meat and Meat Products” – Yosu University Research Symposium, Korea, 2005
- “Use of Sensory Evaluation in Product Development” – Sunchon National University, Graduate Food Science and Nutrition Seminar, Korea, 2005
- “Use of Irradiation for Food Safety: Effects on Sensory and Consumer Perception of Meat Products”, - Korea Nuclear Energy Research Center, 2005
- “Black Walnut Syrup: Consumer And Descriptive Sensory Analysis” – Institute of Food technologists Annual Meeting – New Orleans, LA, 2005, Presented by Co-Author
- “A Comparison of Consumer Refrigeration Knowledge and Practice by a Self-Reported Food Safety Knowledge Category” Joint AEA/ARD Conference, New Orleans, LA, 2005, Presented by Co-Author, Best Paper award

## **EDGAR CHAMBERS IV, cont.**

- “Consumer Sensory Evaluation of Organically- and Conventionally-Grown Leafy Vegetables” - American Society for Horticultural Science Annual Conference, Las Vegas, NV, 2005, Presented by Co-Author
- “Flavor Description and Classification of Selected Natural Cheeses. 5th International Conference on Culinary Arts and Sciences, Warsaw, Poland. 2005, Presented by Co-Author
- “Flavor and Texture Profiling Of Enhanced Beef Longissimus Muscle” – International Congress of Meat Science And Technology, Baltimore, MD, 2005, Presented By Co-Author
- “Thickened Liquids: Serving Temperature Considerations” – American Speech-Language Hearing Association Annual Meeting, Chicago, 2005, Presented By Co-Author
- “Thickened Liquids: Understanding the Patient’s Perspective” – American Speech-Language Hearing Association Annual Meeting, Chicago, 2005, Presented By Co-Author
- “Portion Size and Obesity”, USDA National Conference on Obesity Prevention, Washington DC, 2004
- “U.S. Interest in Functional Foods” – 2nd International Conference on Functional Foods – Jeju, Korea, November, 2004
- “Importance of Sensory Evaluation in Industry”. Suncheon National University Research Symposium, Suncheon Korea. November 2004
- “Sensory Evaluation of Baechu Kimchi” – 10th International Symposium on Kimchi, Pusan, Korea, November 2004
- “Sensory Evaluation in the Product Development Process” Pyukyong University Research Symposium, Pusan, Korea, November, 2004
- “What is Flavor and How is it Measured”, American Meat Science Association Annual conference, Lexington, KY 2004.
- Sugar-bushing black walnut. Annual meeting of the Northern Nut Growers Association and the North American Fruit Explorers, Columbia, Missouri, 2004, presented by co-author.
- “Sugar From Black Walnut Trees” Kansas Academy of Science Annual meeting, 2004, presented by co-author
- “Sensory Perception and Evaluation”. Suncheon University, Suncheon Korea. November 2004, presented by co-author
- “Consumers’ perception of products and country of origin on liking and quality evaluation of food products”. European Conference on Sensory Science of Food and Beverages, Florence, Italy, 2004. Presented by co-author
- “Characterization and comparison of typical ice creams available in Italy and the United States”. European Conference on Sensory Science of Food and Beverages, Florence, Italy, 2004 Presented by co-author.
- “Using intrinsic and extrinsic product information to assess the quality and liking of food products: A matter of individual differences”. European Conference on Sensory Science of Foods and Beverages, Florence, Italy 2004. Presented by co-author.
- “Effect of shiitake (*Lentinus edodes* P.) mushroom powder and sodium tripolyphosphate on texture and flavor of pork patties”. IFT Annual Meeting, Las Vegas, 2004. Presented by coauthor
- “Descriptive sensory characteristics of beef jerky prepared using different methods” IFT Annual Meeting, Las Vegas, 2004. Presented by co-author

## **EDGAR CHAMBERS IV, cont.**

- “Nectar & Honey-thick Viscosities: Product, Liquid, & Time Comparisons”. American Speech-Language-Hearing Association Annual Meeting, Philadelphia, PA, 2004. Presented by co-author
- “Current Practices with Thick Liquids: Perceptions of Patient Attitudes/Compliance”. American Speech-Language-Hearing Association Annual Meeting, Philadelphia, PA, 2004. Presented by co-author
- “Clinical Considerations for Thickened Liquids: Factors that Impact Viscosity”, Kansas Speech Language Hearing Association Annual Meeting, Topeka, KS, 2004, Presented by co-author
- “Overview and Summary – Working Group ‘3’ on Research in the Food Stamp Nutrition Education Program”. Joint Society for Nutrition Education – USDA Economics Research Service Workshop on “Advancing the Practice of Food Stamp Nutrition Education Evaluation”, Philadelphia, PA, 2003
- “Viscosity of Nectar & Honey-Thick Milk & Orange Juice at Three Time Intervals”, American Speech-Language Hearing Association Annual Meeting, Chicago, 2003 Presented by Co-Author
- “Techniques For Analyzing And Reporting Accuracy Of Food Intake Produce Mixed Results And Must Be Matched To Objectives”. International Conference on Dietary Assessment, Chiang Rai, Thailand, 2003
- “Sensory Consumer Analysis in the R&D Process”. Chulalongkorn University Research Symposium, Bangkok, Thailand, 2003
- “Designing Consumer Tests”, Kasetsart University Workshop, Bangkok, Thailand, 2003
- “Validation of A Diary Record Form For Chocolate Snack Consumption”. International Conference on Dietary Assessment, Chiang Rai, Thailand. 2003. Presented by Co-Author
- “Elderly Consistent In Use of Descriptive Terms to Describe Portions Of Commonly Eaten Foods”. International Conference on Dietary Assessment, Chiang Rai, Thailand. 2003. Presented by Co-Author
- “Viscosity of Nectar & Honey-Thick Milk and Orange Juice at 3 Time Intervals”. American Speech-Language Hearing Association Annual Meeting, Chicago, 2003 Presented by Co-Author.
- “Researching ‘gotta have um’ concepts and products with skaters, hip-hoppers, and other younger than Gen X consumers”. Institute of Food Technologists Annual meeting, Anaheim, 2002
- “Tying Sensory Research and Methods to the Bottom Line”, ASTM Symposium, Pittsburgh, PA, 2002
- “Effects of Fat and WS3 on Temporal Cooling by Menthol in Lozenges”, Warner Lambert Research Symposium, Morris Plain, NJ, 2002
- “Use of Non-vitamin, Non-mineral Supplements and “Medicinal” Foods in the United States” International Food Choice Conference, Wageningen, Netherlands, 2002
- “Thickened liquids: Effects of Liquid Type & Powdered Thickener on Viscosity. Amer. Speech-Language-Hearing Assoc Annual Meeting, Atlanta, GA, 2002. Presented by Co-Author
- “Sensory characteristics of commercial and “fresh” soymilks”, Institute of Food Technologists Annual meeting, Anaheim, 2002, Presented by Co-Author
- “Milk pasteurization affects flavor properties of commercial French cheeses”, Institute of Food Technologists Annual meeting, Anaheim, 2002, Presented by Co-Author

### **EDGAR CHAMBERS IV, cont.**

- “Categorization of commercial orange juice based on sensory flavor characteristics”, Institute of Food Technologists Annual meeting, Anaheim, 2002, Presented by Co-Author
- “Alternative portion size estimation tools may be necessary for increasing accuracy in dietary studies with elderly Respondents”, American Dietetic Association Annual Conference, Philadelphia, PA, 2002, Presented by Co-Author
- “Acceptability of Frozen Rising Crust Pizza Varying in Serving Temperature” National Science Foundation HBCU-UP Research Conference, Tuskegee Alabama, 2002 (presented by Co-Author)
- “Elderly respondents use knowledge of portions rather than portion size aids in 24-hour dietary recalls”, 17th International Congress of Nutrition, Vienna, Austria, 2001
- “A method for describing the ‘eating experience’ of foods” Pangborn International Sensory Conference, Dijon, France, 2001
- “Comparison of consumers and descriptive sensory panelists for describing the ‘eating experience’ of products”, Third International Congress on Culinary Arts and Sciences, Cairo, Egypt, 2001
- “Caffeine: primary flavor contributions and Flavor Interactions with other Components”, International Society of Beverage Technologists, Ft. Lauderdale, FL 2001
- “Estimates of food intake by elderly during 24-hr recalls notably inaccurate”, Society for Nutrition Education, Oakland, CA 2001 (Presented by co-author)
- “Development of a rapid dietary estimation technique for examining amount consumed of potentially contaminated foods”, 11th World Congress of Food Science and Technology, Seoul, Korea, 2001 (Presented by co-author)
- “Developing nutrition education displays: similarities and differences between young and older adult populations”, 17th International Congress of Nutrition, Vienna, Austria, 2001 (Presented by co-author)
- “Portion size aids may not Improve Accuracy of Reported Dietary Intake By Elderly In 24-Hour Recalls”, 17th International Congress of Nutrition, Vienna, Austria, 2001 (Presented by co-author)
- “Elderly population is confident with estimating portion sizes without aids in dietary recalls”, 23rd annual Tennessee State University Research Symposium, Nashville, TN, 2001
- “Methods of reporting fruit and vegetable consumption during dietary interviews” Tennessee Association of Family and Consumer Sciences, Murfreesboro, TN, 2001
- “Measuring the interactions of Products and Concepts for Food Service”, International Congress on Culinary Arts and Sciences, Cairo, Egypt, 2001 (Presented by co-author)
- “Flavor of common foods and beverages as affected by use of toothpaste”, Pangborn International Sensory Conference, Dijon, France, 2001 (Presented by co-author, winner-Institute of Food Technologists’ Sensory Evaluation Graduate Student Research Competition)
- “Matching results of two independent highly trained sensory panels using different descriptive analysis methods”, Pangborn International Sensory Conference, Dijon, France, 2001 (Presented by co-author)
- “Determination of the Sensory Attributes of Selected Commercial and “Fresh” Soymilks”, Pangborn International Sensory Conference, Dijon, France, 2001 (Presented by co-author)
- “Adapting a lexicon for the flavor description of French cheeses and classification of French cheeses based on flavor”, Pangborn International Sensory Conference, Dijon, France, 2001 (Presented by co-author)



### **EDGAR CHAMBERS IV, cont.**

- “Residual toothpaste flavor and its effect on flavor profiles of common foods and beverages”, Institute of Food Technologists, New Orleans, LA 2001 (Presented by co-author)
- “Estimates of Food Intake by Elderly During 24-Hour Recalls Notably Inaccurate”, Society for Nutrition Education, Oakland, CA, 2001 (Presented by co-author).
- “Use of Sensory Analysis in Product Development”, Chulalongkorn University Research Seminar - Bangkok, Thailand, 1/2000
- “Sensory Analysis - A Vital Link in the Product Development Process”, Keynote address at Kasetsart University Product Development Symposium - Bangkok, Thailand, 1/2000
- “Issues in Accreditation and Certification for Sensory Analysis” - ASTM seminar, Toronto, Canada, 4/2000
- “Cognition and Memory Processes in Dietary Assessment”, Tennessee State Univ. Research Seminar, Nashville, TN 4/2000
- “Sensory Issues for Nutrition”, Tennessee Dietetics Association Keynote Address, Nashville, TN, 4/2000
- “Consumption of and liking of product after use as an alternative to single tests for measuring acceptance of products”, M&M Mars Research Seminar, Hackettstown, NJ, 2000
- “Cognitive strategies used by elderly for reporting dietary intake when using recall procedures”, Society for Nutrition Education Annual Meeting. Charleston, SC. 7/2000
- “Sensory testing for product success”, SSE Inc. Research Seminar, Marshall, MN, 8/2000
- “Portion Size Estimation in Elderly Respondents: Cognitive Issues and Aid Use”, What We Eat in America: Research and Results Conference. Beltsville, MD. 11/2000
- “The importance and use of descriptive sensory analysis in quality assessment” – PacifiChem, 2000, Honolulu, HI, 12/2000
- “Development and Testing of Portion-Size Estimation Aids Used For Assessing Meat Intake during Dietary Recalls”. Association of Research Directors Biennial Conference, Washington DC, 4/2000 (presented by co-author)
- “Descriptive size terms are most effective for estimating portion size of muffins”, American Association of Family & Consumer Sciences Annual Meeting, Chicago, IL. 6/2000 (presented by co-author)
- “Strategies Used by Elders for Recalling Intake during Dietary Interviews”. Tennessee Association of Family & Consumer Sciences Annual Meeting, Memphis, 6/2000 (presented by co-author)
- “Cognitive strategies of US elderly for reporting amounts eaten during 24-hour dietary recalls”, Third European Congress on Nutrition and Health in Elderly People, Madrid, Spain, 11/2000 (presented by co-author)
- “Use of Descriptive Size Categories for Hard to Measure Foods”. What We Eat in America: Research and Results Conference. Beltsville, MD. 11/2000 (presented by co-author)
- “Portion-size estimation aids used by elders during dietary recalls” – Society for Nutrition Education Annual Meeting, Charleston, SC, 2000 (presented by co-author)
- “Development of guidelines for creating and modifying nutrition education displays for low-income families” – Society for Nutrition Education Annual Meeting, Charleston, SC, 2000 (presented by co-author)
- “Pureed & Molded Peaches: Comparisons for Impaired vs. Normal Swallowing” - ASHA, Washington, D.C. 2000 (presented by co-author)

### **EDGAR CHAMBERS IV, cont.**

- “Memory for Food and Use of Portion Size Estimation Aids by Elderly Americans” - USDA Center for Nutrition Policy and Promotion Seminar - Washington, D.C. 1999
- “Evaluating the Flavor of Meat” - American Meat Science Association 52nd Annual Reciprocal Meat Conference, Stillwater, OK, 1999
- “Liking of Food Products over time - Examples using Snack Chips, Chocolate, and Cream Cheese” - Monsanto Research Seminar, Chicago, IL 1999
- “Simplifying Portion Size Estimation: Can We Use Descriptive Terms Such as Small, Medium, and Large to Represent Portion Sizes?” - Centers for Disease Control National Conference on Health Statistics, Washington, D.C., 1999
- “Understanding Consumers= Fat Intake Using Diary Records for Snack Foods” - United Nations Food and Agriculture Organization Food Data Conference, Rome, Italy, 1999
- “Cognition, Memory, and Strategies of Portion-Size Estimation Aid Use in Dietary Studies” - Tennessee State Univ. Research Seminar Series, Nashville, TN, 1999
- “Consumption and Liking of Product after Continual Use as an Indicator of Marketplace Success” - General Mills Research Seminar, Minneapolis, MN, 1999
- “Use of descriptive terms to estimate portion-size of commonly eaten foods” - Institute of Food Technologists Annual Meeting, Chicago, IL, 1999
- “Cognitive Issues and Strategies of Portion-Size Estimation Aid Use in Dietary Studies” - Centers for Disease Control National Conference on Health Statistics, Washington, D.C., 1999 (presented by co-author)
- “Tracking Contaminants That Cause Smoky and Musty off Odors in Foods” - United Nations Food and Agriculture Organization Food Data Conference, Rome, Italy, 1999 (presented by co-author)
- “Describing the Sensory Attributes of Sourdough Bread” - Institute of Food Technologists Annual Meeting, Chicago, IL, 1999 (presented by co-author)
- “Increased training of descriptive panelists improves performance” - Institute of Food Technologists Annual Meeting, Chicago, IL, 1999 (presented by co-author)
- “Effects of fat and nethylpmenthane3carboxamide on menthol cooling in lozenges” - Institute of Food Technologists Annual Meeting, Chicago, IL, 1999 (presented by co-author)
- “Consumer Needs and Wants as Part of the National Research Agenda” - Testimony to the Congressional Advisory Committee of the U.S. Department of Agriculture, Washington, D.C., 1998
- “Effects of Repeated Product Use over Several Weeks on Product Acceptance” - 3rd Intl. (Pangborn) Sensory Sciences Symposium, - Ålesund, Norway, 1998
- “Understanding Product Categories using Sensory and Consumer Data” – Schwan’s Sales Enterprises Research Symposium, Marshall, Minnesota, 1998
- “Cognitive Strategies and Use of Cues in Data Collection using Recalls of last 24-hour Behavior” - Third International Conference on Assessment, Arnhem, Netherlands, 1998
- “Measuring Responses to Food Products and Concepts: What do the Interactions Tell Us?” - 3rd Intl. (Pangborn) Sensory Sciences Symposium, - Ålesund, Norway, 1998 (presented by co-author)
- “Effects of Time and Interstimulus Rinsing on Perception of Capsaicin Heat in Tomato Salsa” - Institute of Foods Technologists, Atlanta, GA, 1998 (presented by co-author)
- “Sensory Quality or Health: Implications of a Forced Choice Test with Potato Chips” - Institute of Foods Technologists, Atlanta, GA, 1998 (presented by co-author)

### **EDGAR CHAMBERS IV, cont.**

- “Sensory Characterization of Smokiness in Foods” - Institute of Foods Technologists, Atlanta, GA, 1998 (presented by co-author)
- “Sensory and Physical Characteristics of Dry Aged Beef Strip Steaks” - Institute of Foods Technologists, Atlanta, GA, 1998 (presented by co-author)
- “Accuracy of Reported Dietary Intake in In-Person and Telephone Interviews” - Institute of Foods Technologists, Atlanta, GA, 1998 (presented by co-author)
- “Development of a Record Form for Tracking Intake of Snack Foods over a Period of Several Weeks” - Third International Conference on Assessment, Arnhem, Netherlands, 1998 (presented by co-author)
- “Validation of 2- and 3-dimensional Portion Size Aids to Estimate Food Intake in Dietary Recalls” - Third International Conference on Assessment, Arnhem, Netherlands, 1998 (presented by co-author)
- “Adequacy of Portion Size Aids for Measuring Snack Foods and other Hard to Measure Foods” - National Center for Health Statistics - Centers for Disease Control Research Seminar, Hyattsville, MD, 1997
- “Cognitive Strategies Used for Portion Size Estimation by Participants in Dietary Recalls” - International Nutrition Congress, Montreal, Canada, 1997
- “Sensory Properties of Musty Compounds in Food” - 9th International Flavor Conference, Lemnos, Greece, 1997
- “Validation of 2- and 3-Dimensional Portion Size Estimation Aids used in In-Person or Telephone Dietary Recalls”, US Dept. of Agriculture Seminar, Washington, D.C. 1997
- “Memory and Cognitive Strategies and their influence on dietary interviews” - USDA Nutrition Research Group Seminar, Washington, D.C. 1997
- “Sensory Characteristics of Chemical Compounds Associated with Smoky Aroma in Foods” - 9th International Flavor Conference, Lemnos, Greece, 1997 (presented by co-author)
- “Effects of Time and Rinses on Repeatability of Measurements of Heat in Salsa” - ASTM semiannual meeting - San Diego, CA 1997 (Presented by co-author)
- “Measurement of Sustained Product Satisfaction: a Study Conducted with Salty Snack Foods” - Institute of Food Technologists Annual Meeting - Orlando, FL, 1997 (presented by co-author)
- “The Usefulness of Just-about-right Scales in Measuring Sweetness” - IFT Annual Meeting, Orlando, FL, 1997 (presented by co-author)
- “Consumer acceptance and sensory properties of salsa containing honey” - IFT Annual Meeting, Orlando, FL, 1997 (presented by co-author)
- “Shelf-life evaluation and consumer acceptability of flavored honey spreads” - IFT Annual Meeting - Orlando, FL, 1997
- “Effect of Product Presence on Trade-off Analysis of Concepts: a Case Study with Frankfurters” - IFT Annual Meeting, Orlando, FL, 1997 (presented by co-author)
- “Use of 2-Dimensional and 3-Dimensional aids for portions sizes in Dietary Recalls” - International Nutrition Congress, Montreal, Canada, 1997 (presented by co-author)
- “Memory Structures and strategies for reporting dietary intakes using recall procedures” - Assoc. of Research Directors Annual Meeting, 1997 (presented by co-author)
- “Use of 2- and 3-dimensional portion size aids in estimating dietary intake” - Assoc. Of Research Directors Annual Meeting, 1997 (1st place, Research Paper competition, presented by co-author)

### **EDGAR CHAMBERS IV, cont.**

- “Sensory Research in the Context of Consumer and Marketing Research” - ASTM Semi-annual Meeting - Orlando, FL, 1996
- “The Bottom Line - Effects of Sensory Research on Corporate Profits” - Procter and Gamble Sensory Research Symposium - Cincinnati, Ohio, 1996
- “Dietary Aids in 24-hour Recalls: Use of 2- and 3-Dimensional Aids and Cognitive Processing Related to Their Use” - USDA Food Survey Research Group Research Presentation, Washington, D.C., 1996
- “The Importance and Measurement of Texture” - Intermountain IFT Symposium, Sun Valley, Idaho, 1996
- “Consumer Acceptance of Irradiated Pork Chops - IFT Annual meeting - New Orleans, LA 1996
- “Sensory Analysis, color, and product life of irradiated frozen raw ground beef patties” - IFT Annual meeting - New Orleans, LA 1996 (Presented by Co-author)
- “Sensory Analysis, color, and product life of irradiated boneless pork chops” - IFT Annual meeting - New Orleans, LA 1996 (Presented by Co-author)
- “How to Use Sensory Analysis in Your Business”, 1996, Kansas Food Processors Workshop, Manhattan, KS
- “Placement of Attribute Questions on Consumer Questionnaires: Effects on Acceptance Scores” - International Congress of Food Science and Technology, Budapest, Hungary, 1995
- “Industry Standards are Important and Necessary in Advertising Claims” - Council of Better Business Bureaus, 5th NAD Workshop "Uniform Industry Performance Standards", Chicago, IL, 1995
- “Interaction of Products and Concepts and Their Effects on Consumer Trade-offs” - International Congress of Food Science and Technology, Budapest, Hungary, 1995 (Presented by Co-author)
- “Effects of a 'No Preference' Option on Preference Tests” - IFT Annual Meeting, Anaheim, CA, 1995 (Presented by Co-author)
- “Sensory Analysis and Consumer Acceptance of Low-Dose Irradiated Boneless Pork Chops” - International Congress of Food Science and Technology, San Antonio, TX, 1995 (Presented by Co-Author)
- “Palatability, Color, and Product Life of Low-Dose Irradiated Beef Steaks” - International Congress of Food Science and Technology, San Antonio, TX, 1995 (Presented by Co-Author)
- “Palatability, Color, and Product Life of Low-Dose Irradiated Pre-cooked Beef Patties” - International Congress of Food Science and Technology, San Antonio, TX, 1995 (Presented by Co-Author)
- “Palatability, Color, and Product Life of Low-Dose Irradiated Raw Ground Beef Patties” - International Congress of Food Science and Technology, San Antonio, TX, 1995 (Presented by Co-Author)
- “Consumer Evaluation of Meat and Meat Products” - Annual Reciprocal Meat Conference, State College, PA, 1994
- “Consumers use of Package Directions for Familiar and Unfamiliar Products” - Symposium on Consumer Evaluation of Packaging, ASTM Spring meeting, Montreal, Canada, 1994
- “Descriptive Analysis: Use of references as an aid in training panels” - Alabama A&M University, Huntsville, 1994
- “Determining Shelf-life of Foods Using Sensory Methods” - American Institute for Baking Annual Conference, Manhattan, KS and Kansas City MO. 1992, 1993, 1994.

### **EDGAR CHAMBERS IV, cont.**

- “Methods for Evaluating Coated and Breaded Products” - American Institute of Baking Workshop, Manhattan, KS 1993
- “Hitting the Consumer 'Hot Button' to Increase Food Sales” - Kansas Department of Education - Annual School Food Service Meetings, (various locations), 1993
- “Eating Behaviors: Grouping, Defining, and Targeting Niches” - Kansas Nutrition Council, Manhattan, KS 1993
- “Saltiness of Foods containing Selected Sodium salts of Varying Ion Size” - IFT Annual meeting, Chicago, IL, 1993 (Presented by co-author)
- “Evaluation of Food Packaging by Sensory Methods” - U.S. Army Natick Food Packaging and Consumers Conference, Boston, MA 1993 (presented by co-author)
- “Instrumental and Sensory Quantification of *al dente* Texture in Cooked Spaghetti” - Amer. Assoc. of Cereal Chem. annual meeting, Miami Beach, FL 1993 (presented by co-author)
- “Effects of Honey Type and Level on the Sensory and Physical Properties of a Honey-Graham Formula Breakfast Cereal” - American Association of Cereal Chemists Annual Meeting, Minneapolis, MN, 1992 (presented by co-author)
- “Consumer Acceptability, Sensory and Physical Measurements of Pre-baked Frozen Sweet Potatoes” - Association of Research Directors - 9th Biennial Symposium, Atlanta, GA, 1992 (presented by co-author)
- “Sensory Analysis of Hard Surfaces” - ASTM Fall meeting, Clearwater, FL, 1992
- “Consumer Trends & Shifts - The Push-Pull of the Marketplace” - 10th Annual Conference on New Products, Scottsdale, AZ, 1992
- “Myths and Monsters of Sensory Methodology” - Advances in Sensory Sciences Symposium, Helsinki, Finland, 1992
- “Promoting Consistent Standards Across Product Categories” - Council of Better Business Bureaus, 4th NAD Workshop "Product Performance Claims", Rye, NY, 1992
- “Consumer Perceptions of Sensory Qualities in Meat” - IFT Annual Meeting, New Orleans, LA 1992
- “Sensory Analysis of Off Odors in Raw Grain” - IFT Annual meeting, New Orleans, LA, 1992 (presented by co-author)
- “Formulating Reduced-Calorie Table Syrups Using Response Surface Methodology” - IFT Annual meeting, New Orleans, LA 1992 (presented by co-author), 1992
- “Sensory Expectations vs. Nutritional Desires” - Midwest Association of Cereal Chemists, St. Louis, MO 1992
- “Relating Measurements of Sensory Properties to Consumer Acceptance of Meat Products” - IFT Annual meeting, New Orleans, LA 1992 (presented by co-author), 1992
- “Determination of the Flavor Characteristics of Cheese and Classification of Cheese Based on Flavor” - IFT Annual meeting, New Orleans, LA 1992 (presented by co-author), 1992
- “Just About Right Scales - Problems Goldilocks Did Not Think About” - Pillsbury/Grand Metropolitan, Minneapolis, MN, 1992
- “Quantitative Sensory Analysis in Product Development” - Continental Baking Co. Annual Research Management Conference, St. Louis, MO, 1991
- “Sensory Evaluation of Fat Replacers in Bakery Products” - American Institute for Baking Low Fat Foods Conference, Manhattan, KS, 1991
- “Acceptability Scales for Use With Children” - ASTM. E-18 Annual Spring Meeting, Albuquerque, NM. 1991. (Presented by co-author)

### **EDGAR CHAMBERS IV, cont.**

- “Use of Qualitative Research in Product Research and Development” - Institute of Food Technologists Annual Meeting, Anaheim, CA. 1990
- “Sensory Analysis: Passage to Profit or Temple of Doom” - Snack Food Association. Annual Symposium, Cincinnati, OH. 1989
- “Sensory Analysis: Dynamic Research for Today's Products” - Institute of Food Technologists Annual Meeting, Chicago, IL. 1989
- “Comparison of winged bean and soybean to traditional oilseeds for use in Cameroonian Foods”- XIV International Nutrition Congress, Seoul, South Korea 1989 (presented by co-author)
- “Response Surface Methods for use in Developing Products - A case study using snack foods”, Midwest Flavor Manufacturers Association Annual Meeting, Chicago, IL. 1984
- “Lying with Statistics”, St. Louis Section Institute of Food Technologists, 1984

### **REFEREED PUBLICATIONS:**

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### **GRANTS:**

- “Understanding Sensory Properties of Ground Beef”, 2015-2016, \$22,500, National Cattleman’s Beef Association
- “Development of a Coffee Lexicon for Evaluating Climate, Production, and Processing Effects in Specialty Coffees”, 2014-2015. \$110,000. World Coffee Research, Norman Borlaug Foundation
- “Novel Sorghum-Based Fortified Blended Foods for Infants and Young Children” 2012-2016. >\$5,000,000. U.S. Department of Agriculture Foreign Agricultural Service (Co-Principal Investigator with S. Alavi, N. Lijia, B. Lindshield, and S. Procter)
- “Development of science-based and consumer-focused messages to improve consumers’ storage, handling, and preparation of poultry, eggs, and poultry products”, 2012-2017. \$2,498,000. US Department of Agriculture (Co-Principal Investigator with S. Godwin, D. Chambers, and S. Cates)
- “Acceptance of Food Products during Use” 1996-2019. \$1,600,000. Frito-Lay, Inc.
- “Evaluation of Product Characteristics” 1998-2018. \$225,000. Peryam & Kroll Research Corporation (Co-Principal Investigator with D.H. Chambers)
- “Product Testing, Evaluation, and Research” 2001-ongoing. \$4,500,000+, multiple industrial sponsors (Co-Principal Investigator with D. Chambers)
- “Development of an On-line M.S. program in Sensory Analysis and Consumer Behavior”. ~\$35,000. 2013-2014. Kansas State University Distance Education Grants (PI with 4 Co-PIs)
- “Beef Flavor Workshop” 2013. \$35,000. National Cattlemen’s Beef Association. (PI with 3 co-PIs)
- “Development of Strategic Exportation of Functional Sauces for Korean Cuisine Globalization” 2012-2014. \$68,394. Sunchon National University Industry Collaboration Corporation (cancelled after strategic change by industry partner)
- “Development of Calcium-Enhanced Lettuce” 2011-2013, \$41,965 EdenSpace, Inc. (US Dept. of Agriculture Small Business Research SubGrant) (Co-Principal Investigator with S. Park)
- “Faculty Position in Sensory and Chemical Analyses at University of Vigo-Ourense to Develop a Sensory Center” 2013-2016, \$138,600. Government of Spain. (with L. Vázquez-Araújo, PI)
- “Understanding International Consumer Needs and Testing Strategies for Food Development” 2009-2012. \$140,370. U.S. Dept. of Agriculture – International Science and Education Program (PI with D. Chambers and K. Adhikari)
- “Odor of Grain Sorghum” 2009-2011. \$98,370. U.S. Dept. of Agriculture – Agricultural Research Service

## **EDGAR CHAMBERS IV, cont.**

- “Accuracy of Descriptor Categories for Portion Size Estimation in Dietary Recalls” 2002-2006, \$275,000. U.S. Dept. of Agriculture.
- “Flavoring Youth Nutritional Beverages” 2005-2007. \$35,000. SHS, Inc.
- “A Simplified, Rapid Tool for Estimating Portion Size in Dietary Studies” 2001-2004 \$265,000 U.S. Dept. of Agriculture. (Senior Associate. Principal investigator - S. Godwin – Tennessee State University)
- “Use of Portion Size Aids by Elderly Americans” 1998-2002. \$260,000. U.S. Dept. of Agriculture (Senior Associate. Principal investigator - S. Godwin - Tennessee State University)
- “Evaluation of Products for Special Dietary Needs of Children and the Elderly” 1998-2003. \$50,000. Ross Products
- “Developing Procedures for Measuring Impact on Diet” 1999-2002 \$165,000 U.S. Dept. of Agriculture Family Nutrition Program
- “Improving Visual Information on Nutrition for Limited Resource Audiences” 1998-2002 \$ 206,000. U.S. Dept. of Agriculture Family Nutrition Program (Senior Associate. Principal Investigator is D. Chambers)
- “Product Methods Testing with Children and Youth” 1998-2001. \$14,000. Coca-Cola Co.
- “Odor of Plastics” 1998-2001. \$37,450. Fort James Corporation
- “Re-engineering a basic Food Science Course” 1999-2000. \$18,500. American Dietetics Association (Co-Principal investigator with R. Gould, D. Chambers, B. Barrett, D. Canter)
- “Product Methods Testing with children and youth” 1998-2001. \$14,000. Coca-Cola Co.
- “Evaluation of Products for Special Dietary Needs of Children and the Elderly” 1998-2003. \$50,000. Ross Products
- “Acceptance of Products after repeated consumption - Travel Grant to 3rd International Sensory Sciences Symposium”- 1998. \$800. Kansas State University Competitive Faculty Development (Travel Grants) Program
- “Evaluation of Grain Odor” 1995-98. \$69,847. U.S. Department of Agriculture
- “Evaluation of Aids for Assisting with Dietary Recalls” 1997. \$24,897. U.S. Centers for Disease Control, National Center for Health Statistics
- “Musty Compounds in Foods - Travel Grant to International Flavor Conference”- 1997. \$1,400. Kansas State University Competitive Faculty Development (Travel Grants) Program
- “Effects of Honey in Heat Processed and Fresh Salsa” 1995-96. \$15,000. National Honey Board (Co-Principal Investigator with F. Aramouni)
- “Honey Spreads and Specialty Products: Prototype Development and Applied Research” 1995-96. \$7,500. National Honey Board, (Co-Principal Investigator with F. Aramouni)
- “Validation of Portion Size Estimation Aids Used in 24-hr. Dietary Recalls” 1995-1998. \$274,301. USDA. (Senior Associate, Principal Investigator is S. Godwin - Tennessee State University)
- “Quality Study of Pork subjected to Two Types of Low-Dose Irradiation” 1995. \$117,000. National Livestock and Meat Board. (Co-Principal Investigator with D. Kropf and M. Hunt)
- “Attribute Questions on Consumer Questionnaires - Travel Grant to International Food Science and Technology Conference” - 1995, \$450. Kansas State University Competitive Faculty Development (Travel Grants) Program
- “Expert Evaluation of Products for Kansas Processors” 1995. \$11,540. Kansas Value Added Center.
- “Sensory Analysis Education for the Food Science Curriculum” 1992-1994. \$63,714. USDA (Co-Principal Investigator with C. Setser)
- “Review of Techniques for Sensory Evaluation” 1993 \$3,000. Stroh Brewing Co.

## **EDGAR CHAMBERS IV, cont.**

- "Determination of the Sensory Properties of Aromatic Rice" 1992-93 \$9,500. State of Texas.
- "Evaluation of instrumental methods for measuring pasta firmness" 1993 \$6,200. American Italian Pasta Co.
- "Evaluation of cookies with varying sweetener and fat replacement combinations" 1993. \$6,300. Sunette division of Hoechst Celanese Corp.
- "Myths of Sensory Methodology - Travel Grant to 1st International Sensory Symposium" 1992. \$1,500. Kansas State University Competitive Faculty Travel Grants Program.
- "Preliminary Evaluation of Products for Small Kansas Producers" 1992-94. \$27,700. Kansas Value Added Center.
- "Development of Reduced-calorie Syrups for Kansas Processors" 1992. \$5,000. Kansas value Added Center. (Co-principal investigator with F. Aramouni)
- "Snack Food Development and Evaluation" 1992-93. \$5,000. Kansas Value Added Center. (co-investigator with F. Aramouni)
- "Grain Odor" 1991-92. \$81,507. USDA.
- "Use of Honey in Extruded Ready-to-Eat (RTE) Cereals" 1991-1992. \$20,000. National Honey Board. (Co-principal investigator with P. Neumann)
- "Sensory Support--Remodeling" 1991. \$5,000. Kansas Value Added Center
- "Sensory Evaluation of Ingredients for International Markets" 1990-92 (multiple phases). \$45,500. Pepsico Food Service International/Pizza Hut. (Co-principal investigator with C. Setser)
- "Flavor of Selected Fresh Water Fish" 1990. \$5,000. Kansas Value Added Center
- "Evaluation of Jams and Jellies from small Kansas Producers" 1990. \$5,000. Kansas Value Added Center
- "Development of Soybean Derivatives Suitable for Textile Manufacturing" 1990-91. \$10,000. Kansas Soybean Association. (Co-investigator with B. Reagan)
- "Research Equipment for Development of Food Products" 1989. \$8,505 Kansas Technology Enterprise Corp. (Co-principal investigator with C. Setser)
- "Non-Food Uses of Soybean Protein and Oil in Textile Manufacturing, Printing, and Finishing" 1988-1992. \$90,000. Kansas Agricultural Experiment Station - Competitive Grants Program. (Co-investigator with B. Reagan)
- "Sensory Analysis Training Materials". 1988-89. \$27,979. General Mills, Inc.
- "Development of a Sensory Panel to Evaluate Agricultural Products". 1988-89. \$16,986. Kansas State Board of Agriculture (50%) and Kansas Value Added Center (50%).
- "Equipment for Sensory Analysis Research". 1989. \$900. Kansas State University Faculty Development Grants Program.

In addition to the grants listed, over \$2,000,000 in the period 1988-2000 in industry sponsored contract research on foods and beverages; packaging materials; finishes; personal care products and fine fragrances; pharmaceuticals; fabric, paper and textile products; and other consumer products

### **Author Details**

(please list these in the order they should appear in the published article)

Author 1 Name:

Department: The Sensory Analysis Center

University/Institution: Kansas State University

**EDGAR CHAMBERS IV, cont.**

Town/City: Manhattan

State (US only): Kansas

Country: USA

Author 2 Name: Loreida Timberg

Department: Department of Food Processing

University/Institution: Tallinn University of Technology

Town/City: Tallinn

State (US only):

Country: Estonia

Author 3 Name: Roman Shalimov

Department:

University/Institution: Tochka Rosta

Town/City: Moscow

State (US only):

Country: Russia

Author 4 Name: Laura Vázquez-Araújo

Department:

Departamento de Ingeniería Química

University/Institution:

Universidad de Vigo

Town/City: As Lagoas

State (US only):

Country: Spain

Author 5 Name: Angel A. Carbonell-Barracchina

Department:

Departamento de Tecnología Agroalimentaria

University/Institution:

Universidad Miguel Hernandez

Town/City: Orihuela

State (US only):

Country: Spain

Author 6 Name: Brizio Di Donfrancesco

Department: The Sensory Analysis Center

University/Institution: Kansas State University

Town/City: Manhattan

State (US only): Kansas

Country: USA

Author 7 Name: Edgar Chambers IV

Department: The Sensory Analysis C