Summary

Claire Koelsch Sand, Ph.D.

Dr. Claire Sand runs Packaging Technology and Research, where she provides project-based strategy, technology, consulting and coaching services to food and packaging companies.

Claire Sand is an industry and academic leader who focuses on food packaging, food engineering, and food science. Sand integrates material science, active and intelligent packaging, ingredient technology, and food processing strategies to launch new products and extend the shelf life of existing products.

In her 30 plus year career, Dr. Sand has held a variety of roles across the food science and packaging spectrum. Prior to leading her own company, Sand's experience ranged from basic research and development to strategic value chain analysis and everything in between. Her portfolio includes working with Gerber - Nestle, Pillsbury- General Mills, Kraft Foods -Kraft Heinz, Dominick's - Safeway, and research institutes in Germany, Colombia, and Thailand.

Dr Sand is also:

- Fellow, Institute of Food Technologists (IFT)
- Adjunct professor at Michigan State University
- Adjunct professor at CalPoly
- Packaging columnist, IFT's Food Technology magazine
- Editorial Board, Packaging Science and Technology
- Board member, Higher Education Review Board (HERB), IFT
- Reviewer, Journal of Food Science
- Chair, Global Food Packaging Curricula Development, IUFoST
- Pac *FoodWaste* Co-Chair
- Executive Committee, IFT Food Packaging Division
- Committee member, Phi Tau Sigma Strategic Relations and Chapter Affairs
- Stillwater Human Rights Commissioner
- Stillwater School District Workforce Committee member

Dr. Sand holds a doctorate degree in Food Science and Nutrition from the University of Minnesota and MS and BS in Packaging from Michigan State University.

packagingtechnologyandresearch.com

Claire Koelsch Sand, Ph.D.
Owner, Packaging Technology & Research, LLC
Adjunct Professor, Michigan State University

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Quick Links

Summary

Current Affiliations

Industry Experience

Academic Experience

International Experience

Legal Experience

Editorial Boards & Officerships – Past

Books & Chapters

Articles

Presentations Panels, and Short Courses

Education

not retain

Current Affiliations

CEO and Founder

Packaging Technology and Research, LLC. Stillwater, Minnesota. 1996-present

- Propose, develop, and direct strategic and technical food and packaging projects
- Consulting on: M&A, innovation, sustainability, and cost optimizations, efficiencies,
- category direction, food safety
- Apply appropriate food safety and packaging technology to developing markets
- Translate shared value and value chain intentions into business partnerships

Adjunct Professor

Michigan State University. E. Lansing, Michigan
Adjunct Faculty online MS program, 2007-present

California Polytechnic University (CalPoly), San Luis Obispo, California
Adjunct Faculty online MS program, 2017-present

Columnist

Food Technology monthly magazine
Packaging monthly column, 2015-present

Boards and Commissions

- Fellow, Institute of Food Technologists, inducted 2017
- pac, Co-Chair Food Waste, 2018-present
- pac, Food Waste Leadership Team, 2016-present
- Advisory Board, Sweetwater Energy, 2016-present
- IUFoST, Chair of Global Food Packaging Curricula, 2016-present
- Packaging Science and Technology, John Wiley and Sons, Editorial Board and Reviewer, 2004-present
- Journal of Food Science Reviewer, 2014-present
- Institute of Food Technologists (IFT)
  - Higher Education Review Board (HERB), 2014-present
  - Executive Board, Food Packaging Division, 2005-present
- Phi Tau Sigma (food science honorary society),
  - Strategic Relations & Chapter Affairs committees, 2014-present
- University of Minnesota Alumni Association and CFANS, 1992-present
- Michigan State University School of Packaging Alumni Association, 1999-present
- Human Rights Commission Stillwater, Minnesota, 2013-present
- Workforce Development Commission Stillwater, Minnesota, 2014-present

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Industry Experience

Industry: Marketing

Dominick's Finer Foods. Northlake, Illinois
Category Brand Manager, 1997-1998

- Developed and implemented strategies that increased international food sales by 55%
- Identified, sourced, purchased, and marketed international foods
- Applied alternative product, package, and marketing of international foods

Industry: Market Research

Total Quality Marketing. Chicago, Illinois
Package and Product Development Consultant, 1995-1997

- Conducted research to identify opportunities and refine growth strategies for multiple clients
- Systematized product optimization, training, shelf life extension, investments, and testing

Industry: Research and Development

Packaging Technology and Research, LLC. Stillwater, Minnesota.
CEO, 1996-present

- Propose, develop, and direct strategic and technical food and packaging projects
- Consulting on: M&A, innovation, sustainability, and cost optimizations, efficiencies,
- category direction, food safety
- Apply appropriate food safety and packaging technology to developing markets
- Translate shared value and value chain intentions into business partnerships

Kraft Foods. Glenview, Illinois
Technical Business Manager, 1993-1995
Research Engineer, 1992-1993

- Responsible for product/product/process/package resource for $126 million Confection Div
- Managed rapid development and production scale-up of 1994 introductions
- Developed and implemented process to reduce marshmallow consumer complaints by 75%
- Led a "Special Situation" team to resolve a recall and safety crisis

Grand Metropolitan (General Mills). Minneapolis, Minnesota
Guest Food Engineer, Strategic Technology Division, 1991

- Explored ohmic, microwave, minimal processes, and the applicability of expert systems

Gerber Products Company (Nestle), Fremont, Michigan
Packaging Engineer. 1986–1987

not retained

Legal Expert Witness Experience

Inline Packaging Inc v Graphic Packaging International, Inc.

IPR2015-01609

- Neustel Legal. Fargo, SD
- Declaration in support of petition for inter parties review (mid-2015)
- Depositions (mid and early-2016)
- Complete-Successful Ruling: PTAB decision invalidated all 53 claims (early-2017)

KH Enterprises Group, Inc v. Swiss Valley Farms

Cooperative Civil File No 12-cv00086.

- Faegre Baker Daniels, LLP. Minneapolis, MN
- Expert reports (2017)
- Deposition (2017)
- Complete-Case settled

ScentSational Technologies, LLC v. PepsiCo, Inc., et al.

C.A. No.: 13-cv-8645 (KMK) (LMS) (SDNY)

- Leason Ellis. White Plains, NY
- Expert report (early-2016)
- Deposition (mid-2016)
- In process

Alessandro Berni, et al. v. Barilla S.p.A., et al.

Case No. 1:16-cv-04196; Eastern District of New York

- Harwood Feffer LLP
- In process

Iglesias et. al. v. Ferrara

Case No. 3:17-cv-00849-VC, US District Court, Northern District of California

Gordon et al v. Tootsie Roll

Case No. 2:17-cv-02664-DSF-MRW, US District Court, Central District of California

Gordon et. al. v. *Nestle*

Case No. BC649863, Superior Court for the State of California County of Los Angeles

Escobar et. al. v. *Just Born*

Case 2:17-cv-01826, Superior Court for the State of California County of Los Angeles.

Tsuchiyama, et. al. v. *Taste of Nature*

- Clarkson Law Firm
- Expert reports in process

Not retained

Academic Experience

Academic: Online Teaching and Course Development

- Michigan State University. E. Lansing, Michigan
  - Adjunct Faculty online MS program, 2007-present
- Cal Poly. San Luis Obispo, California
  - Adjunct Faculty online certificate and MS program, 2017-present
- Rochester Institute of Technology. Rochester, New York
  - Adjunct Faculty online, 2009-2011
- University of Florida. Gainesville, Florida
  - Adjunct Faculty online, 2010-2012

Academic: Management

University of Wisconsin. Menomonie, Wisconsin
Administrative and Research Director, Food Packaging Technology Center, 2002-2007

- Co-developed, implemented, and managed creation of the Center
- Engineered $11.2 million for center for small farms and value-added food businesses
- Initiated and directed research project work with small area farmers and businesses

Academic: Tenured Associate Professor

University of Wisconsin. Menomonie, Wisconsin
Tenured Associate Professor, 1998-2007

- Chair and Vice Chair of Curriculum and Instruction Committee 2002-2006
- Dean's Recognition for excellence in multidisciplinary approach
- Outstanding Researcher of the Year Nominee 2003

International Experience

IESC

J.E. Austin and Associates Washington DC
- Advisor, 2009
- Food production/packaging advice to KSA

Fraunhofer Institute - IVV, Freising, Germany
- Guest Scientist, January - July, 1992
- Co-developed EU standards on migration from polymer into high fat foods SCFE/MS

Org. of American States, Bogota, Colombia
- Technical Advisor, June - September, 1986
- Developed a food packaging laboratory model at existing food research facility

Bangkok Orchids Co., Bangkok, Thailand
- Packaging Advisor. January - April, 1986
- Developed appropriate package process improvements to extend the shelf life of orchids

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Editorial Boards & Officerships – Past

Michigan State University

- Board of Directors, MSU School of Packaging Alumni Association 1996 to 2003
- MSU School of Packaging Alumni Association, Membership Com Chair 2000-2001
- MSU School of Packaging Alumni Association, Secretary 1999 to 2000

Institute of Food Technologists (IFT)

- Chairperson, Institute of Food Technologists Food Packaging Div 2016 to 2017
- Chair-Elect, Institute of Food Technologists Food Packaging Div 1992 to 1993
- Global Interests subcommittee, Institute of Food Technologists 1997 to 2000
- Task Force on Governance, Institute of Food Technologists 1997 to 1998
- National Councilor, Institute of Food Technologists 1996 to 1997
- Newsletter Editor, Institute of Food Technologists Food Packaging Div 1994 to 1997

not retained

Articles

- Sand, C, 2018. Package Testing. Food Technology, May
- Sand, C, 2018. Packaging Laws and Regulations. Food Technology, April
- Sand, C, 2018. Pet Food Packaging. Food Technology, March
- Sand, C, 2018. Future of Food Packaging. Food Technology, February
- Sand, C, 2018. Packaging to Keep Produce Fresh. Food Technology, January
- Sand, C, 2017. Value -Added Packaging. Food Technology, December
- Sand, C, 2017. Materials for Increased Packaging Sustainability. Food Technology, November
- Sand, C, 2017. Ingredient Packaging Close-up. Food Technology, September
- Sand, C, 2017. Global Approaches to Sustainable Food Packaging. Food Technology, October
- Sand, C, 2017. Good Things Come in Packaging. Food Technology, August
- Sand, C, 2017. Packaged to Preserve. Food Technology, July
- Sand, C, 2017. Vetting Food Packaging. Food Technology, June
- Sand, C, 2017. Packaging Opportunities Are Nicely Bundled at IFT17. Food Technology, May
- Sand, C, 2017. Business Case for Reducing Food Waste. Food Technology, April
- Sand, C, 2017. Food Service Craves Packaging. Food Technology, March
- Sand, C, 2017. Barrier packaging. Food Technology, February
- Sand, C, 2017. Packaging Solutions for Clean Label Products. Food Technology, January
- Sand, C., 2016. Packaging Shapes Up and Feels Great. Food Technology, December
- Sand, C., 2016. Innovations in Plastic Food Packaging. Food Technology, November
- Sand, C., 2016. Increasing Agility in the Packaging Value Chain. Food Technology, October
- Sand, C., 2016. The Packaging Scene at IFT16. Food Technology, September
- Sand, C., 2016. Pivots Package Innovation. Food Technology, August
- Sand, C., 2016. Reduce Packaging Costs. Food Technology, July

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- Sand, C., 2016. Packaging Solutions at IFT. Food Technology, June
- Sand, C., 2016. MAP Expands. Food Technology, May
- Sand, C., 2016. Food Packaging Research. Food Technology, April
- Sand, C., 2016. Societal Factors Influence Packaging. Food Technology, March
- Sand, C., 2016. Opening Innovation with Closures. Food Technology, February
- Sand, C., 2016. Strategies to Halt Package Fraud. Food Technology, January
- Sand, C., 2015. Packaging Machinery Flexes. Food Technology, December.
- Sand, C., 2015. Intelligent Packaging Advances. Food Technology, November.
- Sand, C., and Brody, A., 2015. Packaging innovations that decrease consumer derived food waste. Food Technology, October.
- Sand, C., and Brody, A., 2015. Packaging that Sells. Food Technology, August.
- Brody, A., Sand, C. Sabbagha, F., 2014. RFID in Packaging using Value Chain. Food Technology. October
- Brody, A., Sand, C. Sabbagha, F., 2014. RFID in Packaging. Food Technology. September. pp79-80.
- Sand, C.K., 2009. Food Service Packaging. Wiley Encyclopedia of Packaging Technology.
- Casper, D.F., and Sand, C.K., 2009. Specifications and Quality Procedures. Wiley Encyclopedia of Packaging Technology..
- Brody, A., Bugusu, B., Han, J., McHugh, T., Sand, C.K., 2008. Scientific Status Summary: Innovative Food Packaging Solutions. Food Technology.
- Sand, C.K. and Blakistone, B., 2007. Using packaging technologies to respond to Consumer, Retailer, and Seafood Industry needs. Proceedings from International Smoked Fish Conference March. Anchorage, Alaska.
- Sand, C.K., 1996. Translating Consumer Needs into the Package. Packaging Yearbook, 1996. Washington DC. Editor Blakistone, B. pp 98-114.
- Sand, C.K., 1996. Specifications and Quality Assurance. In The Wiley Encyclopedia of Packaging Technology. New York. Editor Brody, A. 849-852.

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- Koelsch, C.M., 1994. Edible Barriers: A Review of their Properties and Promise. Trends in Food Sci. and Tech. 5 (3): 76-81.

- Koelsch, C.M. and Labuza, T.P., 1992. Functional, Morphological and Physical Properties of Edible Fatty Acid Based Barriers. Lebensm. Wiss. und Technol. 25: 404-411.

- Koelsch, C.M. and Labuza, T.P., 1991. Plastic, Packaging and Municipal Solid Waste: The Current Controversy I and II. Cereal Foods World. 36 (1): 44-52; 36 (3): 284-298.

- Koelsch, C.M., Downes, T.W., and Labuza, T.P., 1991. A System and Kinetic Expressions for the Measurement of Hexanal Formation via Lipid Oxidation as a Function of Oxygen Concentration. Journal of Food Sci. 56 (3): 816-834.

- Hong, Y.C., Koelsch, C.M., and Labuza, T.P., 1991. Using the L# to Predict the Efficacy of Moisture Barrier Properties of Edible Food Coating Materials. J. Food Proc. Pres. 15: 45-62.

Books & Chapters

- Sand, C., 2018. Intelligent packaging and the multisensory experience in Multisensory Packaging Design.
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- Sand, C., 2010. The Packaging Value Chain. DesTech Publishing.

- Sand, C., 2009. Packaging sustainability and bio-degradable films and packaging in Modified Atmosphere Packaging MAP for Fresh-cut Fruit and Vegetables Brody, Han, Hong.

- Sand, C., 2007. Understanding and Executing Sustainability Initiatives and Sustainable Packaging Programs. Packaging Strategies.

Presentations, Panels, and Short Courses

- Sand, C.K., 2017. Packaging technologies and value chain concepts to advance value-added pulse-based foods. Convergent Innovation Webinar Series. McGill. Montreal. March, 2017.

- Sand, C.K., 2017. Tactical packaging challenges and solutions for fresh seafood. Louisiana. January, 2017

- Sand, C.K., 2016. Food Packaging Research Needs. IFT Annual convention, Chicago, IL July, 2016.

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- Sand, C.K. 2015. Enabling your Innovations using the Packaging Value Chain. AMI Multilayer films conference. Chicago, June 3, 2015

- Sand, C.K. 2015. GFSI, BRC, SQF and Beyond: Where Food Safety is Heading and Packaging's Role in Getting Us There. ADS Annual Technical Meeting San Antonio, Texas. May 5, 2015.

- Sand, C.K. 2015. Bringing in Innovation with the Packaging Value Chain. IFT Webcast February 26, 2015.

- Sand, C.K. 2014. Influence of Packaging on Flavors in Foods. Flavor Short Course. University of Minnesota, St. Paul, MN

- Sand, C.K., 2014. Interview for Wall Street Journal: See-Through Food Packaging Boosts Sales Clear Packages Draw Shoppers But Are Very Tricky; What's Best Left Unseen

- Sand, C.K. 2008. Research Developments and Needs in Sustainable Packaging Metrics. IFT Panel. IFT Annual meeting. New Orleans, LA.

- Sand, C.K., 2008. IFT Short Course Speaker on packaging for Food Science for non Food Scientists. IFT Annual meeting. New Orleans, LA.

- Sand, C.K., 2008. Exercising Sustainable Packaging in the Sports Drinks Arena: New Technologies in Food Packaging that Enhance Shelf Life, Wellness, and Sustainability, Developing and Marketing Products for Consumer Health & Wellness. Rosemont, IL

- Sand, C.K., 2008. Sustainability will Drive the Packaging Value Chain. Packaging Executives Forum, E. Lansing, MI.

- Sand, C.K., 2007. More Sustainable Food Packaging. Quality Assurance Association. Edina, MN.

- Sand, C.K., and Brody, A., and Rubino, M., 2007. Food Packaging for Food Scientists. IFT Annual meeting. Chicago, IL.

- Sand, C.K. and Blakistone, B., 2007. Using packaging technologies to respond to Consumer, Retailer, and Seafood Industry needs. International Smoked Fish Conference March. Anchorage, Alaska.

- Sand, C.K., 2007. More Sustainable Food Packaging. Quality Assurance Association. Edina, MN.

- Sand, C.K. 2007. Food packaging Innovations Needed to Respond to Sustainability Initiatives. IFT Panel. IFT Annual meeting. Chicago, IL

- Sand, C.K., 2003. Appleton on-site training session. Appleton, WI

- Sand, C.K., 2003. On-campus training session for Appleton. University of Wisconsin-Stout.

not retained

- Sand, C.K., 2002. Teaching in the Laptop Environment. IAPRI Conference Worldpak. E. Lansing, MI MSU.

- Sand, C., 2001. Researcher of the Year Nominee Presentation. University of Wisconsin-Stout.

- Sand C.K., 2000. Package and Product Development for Beginners at Bringing Profit Back to the Farm in Eau Claire for University of Wisconsin cooperative extension service February, 2000

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Education

- Ph.D., Food Science and Nutrition, University of Minnesota, 1992
- M.S., Packaging, Michigan State University, 1989
- B.S., Packaging, Michigan State University, 1986

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