



Personal Information:

Name: Haotian Zheng

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LinkedIn: www.linkedin.com/in/zhenghaotian

Position:

Assistant Professor, Food Chemistry, NC State University, Raleigh, NC, USA

Expertise: Technical functionalities of food hydrocolloids, Dairy ingredients manufacturing and application, food structure and texture design (for improved stability, physiological functionality and mouthfeel), Rheology & Tribology, Food digestion, Characterization of Physicochemical Properties of food systems, Dairy Protein & Lipid (phospholipid) Chemistry, Milk Fat Globule Membrane (MFGM)

Education:

Jan. 2011 – Dec. 2014; University of Otago, New Zealand

Ph.D. in Food Science (Dairy Science and Technology concentration): Milk Fat Globule Membrane (physicochemistry and dairy lipid chemistry)

Sept. 2008 – August 2010; Wageningen University, the Netherlands

M.S. in Food Technology (Dairy Science focus: thesis in dairy protein chemistry)

Sept. 2003 - June 2007; Northeast Agricultural University, China

B.Eng. in Food Science and Engineering

Professional & Academic Work Experience:

Current

Jan.2020 – Onward: Assistant Professor, Food Chemistry, Department of Food, Bioprocessing and Nutrition Sciences, NC State University, Raleigh, NC, USA

Duties:

0.8FTE: research (in charge of food chemistry & food rheology research program)

0.2FTE: teaching (food chemistry & food ingredient functionality related classes, rheology lab for FS231 Food Engineering)

Previous Experiences

Dec. 2018 – Jan.2020: Interim Director, [Dairy Innovation Institute](#), California Polytechnic State University, USA (*Cal Poly Dairy Innovation Institute is one the 6 dairy technical centers in the USA*)

Sept. 2017 - Jan.2020: Assistant Professor (tenure-track) in Dairy Foods Manufacturing/Bioengineering, [California Polytechnic State University](#), USA

Job deliverables:

1. Developed 6 dairy foods processing related courses at Cal Poly;
2. Improved research and technical capability in dairy foods manufacturing at Cal Poly;
3. Industry outreach.

Taught undergraduate level Courses:

- DSCI 433 Dairy Plant Management and Equipment
- DSCI 477/490 Senior/Research project

Taught graduate level Courses:

- DSCI s502 Dairy Food Chemistry (lab)
- DSCI s520 Dairy Processing and Manufacturing I (engineering focus)



- DSCI s521 Dairy Processing and Manufacturing II (processing design focus)
- DSCI s524 Dairy Processing and Manufacturing III (product design focus)
- DSCI s582 Dairy Processing and Plant Management (plant operation focus)

Jan.2016 – Sept. 2017: Lecturer Food Engineering (equivalent to assistant professor in the US academic system), [Lincoln University](#), New Zealand (permanent position)

Teaching: As the examiner in charge of 4 undergraduate courses, 3 postgraduate courses (Food Engineering & Food Processing related courses)

Research: Supervised 3 PhD students & >2 MSc students.

Mar. 2014 – Jan. 2016: Research Technologist, [Fonterra Research & Development Centre \(FRDC\)](#), Fonterra Group, New Zealand (permanent contract)

Expertise: Cultured Foods, Protein (powder) Ingredients

Jan. 2011 – Mar.2014: PhD Research Fellow, [Riddet Institute](#) & University of Otago, New Zealand

Physico-chemical structure and its physiological functionalities of milk fat globule membrane (MFGM) (Details available on request), teaching & supervising undergraduate/graduate courses and research projects.

- **Jan. 2013 – Dec. 2013; Adjunct Research Fellow, California Polytechnic State University, USA**
Constructing bio-model system to mimic and to understand the morphology, physicochemical structure and physiological property of milk fat globule membrane (MFGM)

Apr. 2010 – Aug. 2010: Research Intern, [Kyoto University](#), Japan

Research project: stability of TiO₂ nano-emulsion and its chemical/catalytic reactivity

Sept. 2009 – Mar. 2010: MSc. Thesis, [Top Institute Food & Nutrition](#), Netherlands

“The role of cysteine-containing peptides in the aggregation and gelation of whey proteins.”

Sept. 2006 - May 2007: BEng. Thesis, [Dairy Lab](#), University of Helsinki, Finland

Topic: Milk microflora

Awards & Honors:

2020

- High impact Early Career Researcher in Journal of Dairy Science:
<https://www.journals.elsevier.com/journal-of-dairy-science/news/read-interviews-with-high-impact-early-career-researchers>

2016

- PEIYANG Young Scholar (forum travel fund), Tianjin University, China

2015

- Active performance at Fonterra Group, New Zealand

2014

- IDF (International Dairy Federation) recognized “Early Career Researcher.”, held in Australia (IDF SYMPOSIUM ON MICROSTRUCTURE OF DAIRY PRODUCTS)

2013

- Outstanding Self-financed overseas student (in New Zealand) scholarship from China Scholarship Council, (Globally ~500/annual)
- IFT (Institute of Food Technologists, USA) Division Award (Dairy): certificate of merit

2011-2014

- Recipient of PhD funding (full scholarship) from Riddet Institute, New Zealand

2006-2007



- Recipient of exchange student grant (full scholarship), University of Helsinki, Finland.

Certificates:

2020:

- Safety Orientation Checklist, Certificate of Completion (NC State University, Jan.)
- Data Security Training 2019 Completion (NC State University, Jan.)

2019:

- Information Security Awareness Certificate (Cal Poly, Sept.)
- Conflicts of Interests Training Certificate of Completion (Cal Poly via Collaborative Institutional Training Initiative, Sept.)

Professional Memberships:

- American Dairy Science Association (ADSA), Dairy Foods Division, Member-at-Large (membership since 2013)
 - Institute of Food Technologists (IFT), Premier Membership (member 2013 April – 2020 August)
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Research Funds:

2021

- 2021-2023 Developing Innovative Dairy Based Emulsion Systems for Controlled Delivery of Lipophilic Nutrients. Sponsor: California Dairy Research Foundation (PI, 80%, \$100,000)
- 2021-2023 Predicting heat stability of nonfat dry milk in the application of reconstituted UHT milk using spectroscopic techniques as a rapid method. Sponsor: National Dairy Council. (PI, 100%, \$120,631)
- 2021-2023 Soft matter strategy for creating novel food texturizer: replacement of starch by using whey protein aggregates and the aggregates stabilized o/w Pickering emulsion droplets. Sponsor: National Dairy Council. (PI, 100%, \$108,471)
- 2021 Industry project: Dairy Ingredient Functionality Project (confidential) (PI, 100%, \$10,000)

2020

- **Industry NPD project**
 - 2020-2021 Novozymes-Southeast Dairy Foods Research Center Enhancement Project, Sponsor: Novozymes, (PI, 1/1, \$40,000)
 - 2020 IKA works, homogenization project (PI, 1/1, \$17,000)

2019

- **California Dairy Research Foundation**
 - 2019-2020 California Dairy Industry Outreach Program (PI, 1/1, \$31,311)
- **U.S. National Dairy Council (USDA-AMS via DMI)**
 - 2016-2020 Product Research: The Milk Fat Globule Membrane Generates Flavor in Cheese Made from Recombined Milk (co-PI, 1/2: \$144,461)
 - 2019-2021 Creating Cleaner Label Process Cheese Foods by Replacing Emulsifying Salts with Dairy Proteins (co-PI, 1/2, \$2,200, TERMINATED)
 - Applications Program Funding 2019 (PI) (PI, 1/1, \$89,010)

2018

- **Cal Poly Baker/Koob Endowments:** Grants to Support Learn by Doing (student research project: developing protein fortified drinking yogurt) (\$ 5,000)
- **U.S. National Dairy Council (USDA-AMS via DMI)**



- Cal Poly Dairy Applications Program Funding 2018 (co-PI, 1/2: \$USD 80,897)

2017

- **Seeding Fund: From Agricultural Research Institute, California State University, USA**
Establishing lab scale (R&D) technical capability on manufacturing dairy foods for mimicking the commercial manufacturing scale using engineering approaches (PI: \$ 5,000)
- **China-New Zealand Government Doctoral Research Scholarship from China Scholarship Council & New Zealand Ministry of Foreign Affairs and Trade**
As PhD project initiator (at Lincoln University, New Zealand)

2016

- **From The Royal Society of New Zealand & The Ministry of Science and Technology, China:** Catalyst: Leaders: New Zealand - China Scientist Exchange Funding (Optimization of UHT processes for manufacturing ambient stable dairy products): (PI: \$NZD 3,000)
- **Lincoln University (New Zealand):** Performance-Based Research Fund (PBRF) - Harvest Fund: \$NZD 4,000)

Service:

- **Jan.2020 – Onward: MS & PhD committee member**
 - MS, Food Science, NC State, NC, USA
 - MS, Food Science, Chapman University, CA, USA
- **Jan.2020 – Onward: Adjunct faculty member**, Dairy Innovation Insitue, Animal Science Department, California Polytechnic State University, San Luis Obispo, USA
- **June 2020 –** American Dairy Science Association, ADSA 2020 Program Committee member (dairy foods)
- **2019 - Onward: Member-at-Large**, Dairy Foods Division, American Dairy Science Association (ADSA)
- **Nov. 2019** Real California Milk Accelerator – Judging panel, San Mateo, <https://camilkaccelerator.splashthat.com/>
- **2018 onward: Editorial board member:** for journal “SN Applied Sciences”, SpringerNature
- **Jan. 2016 onward: external PhD & MSc advisor, [Lincoln University](#), New Zealand**
 - *PhD students: Zhiguang Huang, Lokesh Kumar, Han Chen*
 - *Research MSc student: Aklilu Habteghiorghis, Walter Ondiek*
- **2015 – onward: Reviewer for**, 1. Food Chemistry (Elsevier), 2. RSC Advances (RSC), 3. Journal of Agricultural and Food Chemistry (ACS), 4. International Dairy Journal (Elsevier), 5. Journal of Food Composition and Analysis (Elsevier), 6. Journal of Food Processing and Preservation (Wiley), 7. Food Structure (Elsevier), 8. Food Hydrocolloids (Elsevier), 9. Starch - Stärke (Wiley), 10. Colloids and Surfaces A (Elsevier), 11. Food Bioscience (Elsevier), 12. Food Reviews International (Taylor & Francis), 13. Journal of Food Science (Wiley), 14. Journal of the Science of Food and Agriculture Elsevier (Wiley), 15. Royal Society Open Science (Royal Society Publishing), 16. FondazioneCariplo, Italy (Grant reviewer, 2018)

Zheng Lab Student/Staff & Publications

Student/staff log:

2020-2021 (at NCSU, USA)

1. Dr. Avinash Patel (PhD from University of Maine): Food Chemistry lab manager, Rheology lab manager
2. Andrew Christenson (MS, NCSU): Developing food Janus particles from whey protein



3. Johnna Bingham (MS, NCSU), Biochemistry Masters Program at NCSU (NSF supported), key words: surfactant adsorption isotherm, emulsion, lipid digestion kinetics, lipid absorption
4. Nikhilesh Gore (MS, NCSU), key words: protein gels, enzymatic gelation of globular protein, 3D rheology, interfacial shear (2D) rheology
5. Jonathan Strum (BS, NCSU): Lab technician
6. Bhavana Uppili (MS, NCSU-UDSA): 2020 summer internship

2017-2019 (at Cal Poly, USA)

7. Weststeyn, BS, Animal Science (2019 SP ASCI 477, MFGM-Cheese project, #57414)
8. Truong, BS, Food Science (2019 SP ASCI 490, won Baker/Koob Endowment \$5,000, drinking yogurt project; 2019-2020 National Dairy Council, new product development competition, won finalist award, 1/6, \$2, 000)
9. Salazar, MS, Polymer Science (2019 SP ASCI490, MFGM-Cheese project, #57414)
10. Guerzon, BS, Animal Science: summer research, Cal Poly SURP (2018): application of functional milk protein ingredient (cd-MPC) in Greek style yogurt
11. Ingram, BS, Biomed Eng: summer research, Cal Poly SURP (2018): application of functional milk protein ingredient (BMC) in dairy emulsion

2016-2017 (At Lincoln University, New Zealand)

12. PhD student (Han Chen at Lincoln University, New Zealand): Development of functional yogurt (Graduated)
13. PhD student (Huang at Lincoln): Improving the understanding of physiological functionalities of the milk lipids (Graduated)
14. PhD student scholarship (as initial project promoter, Wu at Lincoln): China scholarship council & New Zealand Foreign Affairs & Trade-full PhD scholarship
15. PhD student (Kumar, Starch-Dairy Ingredient Interactions) (Graduated)
16. Research MSc student (Habteghiorghis, NZ milk seasonality) (Graduated)
17. Research MSc student (Ondiek, effect of dairy probiotics on detoxification) (Graduated)
18. BSc senior projects (Wang & Lin): Establishing prediction models for predicting rheological, textural properties and stability of dairy foods made from different dairy protein ingredients (e.g., Caseinates, WPC, MPC, WMP, SMP, Micellar Casein Concentrate) (Graduated)

Selected publications: (* as corresponding author, my name is marked as bold)

1. Ondiek, W., Wang, Y., Sun, L., Zhou, L., On, S.L., **Zheng, H***, and Ravi, G., 2021. Removal of aflatoxin b1 and t-2 toxin by bacteria isolated from commercially available probiotic dairy foods. Food Science and Technology International, p.1082013220987916.
2. Patel, A. S.; Yeung, C. K.; Brennan, C.; **Zheng, H.***, Ingredients & Formulation. In Reference Module in Food Science, Elsevier: 2020.
3. Chen, H., **Zheng, H.***, Anne Brennan, M., Chen, W., Guo, X. and Brennan, C.S.*, 2020. Effect of Black Tea Infusion on Physicochemical Properties, Antioxidant Capacity and Microstructure of Acidified Dairy Gel during Cold Storage. Foods, 9(6), p.831.
4. Huang, Z., Brennan, C.S., Mohan, M.S., Stipkovits, L., **Zheng, H.**, Kulasiri, D., Wenqiang, G., Zhao, H. and Liu, J. (2020), Milk lipid in vitro digestibility in wheat, corn and rice starch hydrogels. International Journal of Food Science & Technology. doi:10.1111/ijfs.14607
5. Zhiguang Huang, Charles Stephen Brennan, Hui Zhao, Jianfu Liu, Wenqiang Guan, Maneesha S. Mohan, Letitia Stipkovits, **Haotian Zheng**, Don Kulasiri, Fabrication and assessment of milk phospholipid-



- complexed antioxidant phytosomes with vitamin C and E: A comparison with liposomes, Food Chemistry, Volume 324, 2020, 126837
- Zhiguang Huang, Charles Stephen Brennan, **Haotian Zheng**, Maneesha S. Mohan, Letitia Stipkovits, Wenjun Liu, Don Kulasiri, Wenqiang Guan, Hui Zhao, Jianfu Liu, The effects of fungal lipase-treated milk lipids on bread making, LWT, Volume 128, 2020, 109455
 - Huang, Z., Brennan, C.*, Zhao, H., Guan, W., Mohan, M.S., Stipkovits, L., **Zheng, H.**, Liu, J. and Kulasiri, D., 2020. Milk phospholipid antioxidant activity and digestibility: Kinetics of fatty acids and choline release. Journal of Functional Foods, 68, p.103865.
 - Huang, Z., **Zheng, H.***, Brennan, C.S.*, Mohan, M.S., Stipkovits, L., Li, L. and Kulasiri, D., 2020. Production of Milk Phospholipid-Enriched Dairy Ingredients. Foods, 9(3), p.263.
 - Zheng, H*** (2019) Introduction: Measuring rheological properties of foods, Rheology of Semisolid Foods (Joyner ed.), Springer International Publishing (DOI: 10.1007/978-3-030-27134-3)
 - Huang, Z., Stipkovits, L., **Zheng, H.**, Serventi, L. and Brennan, C.S.*, 2019. Bovine milk fats and their replacers in baked goods: A review. Foods, 8(9), p.383.
 - Zheng, H*** (2018) Polymers for Structure Design of Dairy Foods (chapter 19), in book title: Polymers for Food Applications, publisher: Springer Nature (DOI: 10.1007/978-3-319-94625-2)
 - Lokesh Kumar, Margaret Brennan, **Haotian Zheng***, Charles Brennan (2018), The effects of dairy ingredients on the pasting, textural, rheological, freeze-thaw properties and swelling behaviour of oat starch, Food Chemistry, Volume 245, Pages 518-524 .
 - Lokesh Kumar, Margaret A. Brennan, Sue Mason, **Haotian Zheng*** and Charles S. Brennan (2017) Rheological, Pasting and Microstructural Studies of Dairy Protein-Starch Interactions and their Application in Extrusion-Based Products: A Review. Starch - Stärke, 69: 1600273. Wiley
 - Zheng, H.***, Gordon, K. C., & Everett, D. W. (2013). Innovative application of confocal Raman microscopy to investigate the interaction between trans-2-hexenal and bovine milk fat globules. International Dairy Journal, 32(2), 68-70.
 - Zheng, H.***, Jiménez-Flores, R., & Everett, D. W. (2013). Bovine Milk Fat Globule Membrane Proteins Are Affected By Centrifugal Washing Processes. Journal of Agricultural and Food Chemistry, 61(35), 8403-8411.
 - Zheng, H.***, Jiménez-Flores, R., & Everett, D. W. (2014). Lateral lipid organization of the bovine milk fat globule membrane is revealed by washing processes. Journal of Dairy Science, 97(10), 5964-5974.
 - Zheng, H.***, Jiménez-Flores, R., Gragson, D., & Everett, D. W. (2014). Phospholipid Architecture of the Bovine Milk Fat Globule Membrane Using Giant Unilamellar Vesicles as a Model. Journal of Agricultural and Food Chemistry, 62(14), 3236-3243.

Oral Presentations at Conferences: (* as corresponding author, my name is marked as bold)

- Haotian Zheng***, Matt Arnold, Kieran Kilcawley, Trevor Harding, Mary Weststeyn, Impact of Milk Fat Globule Membrane Materials on Cheese Made from Reconstituted Milk: Structure and Volatile Organic Compounds, ADSA annual meeting, (virtual, USA, 21~24/June/2020) J. Dairy Sci. 103 (Suppl. 1)
- Haotian Zheng***, Impact of Milk Fat Globule Membrane Materials on Cheese Made From Recombined Milk, 2019 Global Cheese Technology Forum, Tue, November 05, 2019 @ 04:00 PM — Thu, November 07, 2019, Peppermill Resort, Reno, NV, USA (by American Dairy Products Institute).
- J. A. Ortiz Salazar, R. H. Fernando, and **H. Zheng***. (2019) Application of partial calcium-depleted milk protein concentrate in protein-fortified stirred yogurt for improving the gel water-holding capacity and product processability. ADSA annual meeting, 182 presentation (Cincinnati, Ohio, USA, 23~26/June/2019)



4. **Haotian Zheng***, Testing Functional Boundaries of Dairy Ingredients in Protein Fortified Dairy Gel Systems, ADSA (American Dairy Science Association) annual meeting, Oral presentation (Knoxville, Tennessee, USA, 24-27/June/2018)
5. **Haotian Zheng***, Testing Functional Boundaries of Dairy Ingredients in Protein Fortified Dairy Gel System, 20th Annual Dairy Ingredients Symposium: Innovative Dairy Ingredients, Adding Value to the Industry, Shell Beach, California, February 26-28, 2018.
6. **Haotian Zheng***, Keith C Gordon, Rafael Jimenez-Flores, David Everett, Characterization of interactions between volatile organic compounds and milk fat globules by confocal Raman microscopy. The 2nd IDF (International Dairy Federation) Symposium on Microstructure of Dairy Products and 5th IDF Symposium on Science and Technology of Fermented Milk, Early Career Researcher Oral presentation (Melbourne, Australia, 3~7/March/2014)
7. **Haotian Zheng***, Structural Nature of the bovine milk fat globules, Riddet Institute research colloquium, Wellington, New Zealand, 2014
8. **Haotian Zheng***, Rafael Jiménez-Flores, David Everett. From giant unilamellar vesicles (GUVs) to lipid organization of the bovine milk fat globule membrane (MFGM). ADSA annual meeting, Oral presentation (Indianapolis, USA, 8~12/July/2013)
9. **Haotian Zheng***, Rafael Jiménez-Flores, David Everett, Centrifugal washing processes reveal lipid organization of the bovine milk fat globule membrane (MFGM). ADSA annual meeting, Oral presentation (Indianapolis, USA, 8~12/July/2013)
10. **Haotian Zheng***, David Everett, Centrifugal washing processes reveal the protein structure of the bovine milk fat globule membrane (MFGM). IFT (Institute of Food Technologists, USA) annual meeting, Manfred Kroger Dairy Foods Division Oral Competition (finalist) (Chicago, USA, 13~16/July/2013)
11. **Haotian Zheng***, Milk Fat Globule Membrane and Its effects on Flavour Release, Riddet Institute research colloquium, Palmerston North, New Zealand 2011

Poster Presentations at conferences/meetings/ colloquiums:

12. **H. Zheng***, A. Habteghiorghis, R. Gooneratne, and M. Morgenstern. (2019) Seasonal variations of pasture fed bovine milk and their impact on heat stability of the skimmed milk. ADSA annual meeting, M88 presentation (Cincinnati, Ohio, USA, 23~26/June/2019)
13. **H. Zheng***, L. Ingram, J. A. Ortiz Salazar, J. Lu, and R. Fernando. (2019) Engineering innovative dairy emulsion droplets to mimic native milk fat globules. ADSA annual meeting, M115 presentation (Cincinnati, Ohio, USA, 23~26/June/2019)
14. K. Zhuang, H. Li, Z. Zhang, X. Feng, S. Fu, T. Li, Y. Jiang, **H. Zheng***, and C. Man. (2019) Preparation of γ -aminobutyric acid-enriched fermented compound beverage by *Lactobacillus plantarum* J26. ADSA annual meeting, T50 presentation (Cincinnati, Ohio, USA, 23~26/June/2019)
15. **Haotian Zheng**, Isolation processes for Bovine Milk Fat Globules (MFGs) induce structural and compositional changes, Riddet Institute research colloquium, Palmerston North, New Zealand, 2012

Invited Talk & Webinar & Guest Lecture & Seminar

1. Zheng Lab Research Review (On the road to understanding and control of food structure - Functionalities of Dairy Ingredients), 5-year review for Southeast Dairy Foods Research Center, NC State University, April, 2021
2. Guest lecture (seminar), Food Structure Design, University of Illinois Urbana-Champaign (UIUC), Feb. 2021



3. Guest lecture, Food Rheology and Texture, Universiti Teknologi MARA, Malaysia, Jan. 2021
4. Faculty Research Introduction: Food Chemistry Program at NC State, Lenovo's "visit" to NC State's College of Agriculture & Life Sciences, 10/1/2020 (via ZOOM)
5. Wageningen Academy Tech Talk - Circular Agriculture Systems: The efficient way to utilize by-products was launched on the 19th of June, 2020
6. Seminar: Structure and Texture of Dairy Food Systems at Teagasc Moore Park Research Center, Ireland, July, 2019
7. Seminar: Structure of Dairy Foods at Shenyang Agricultural University, China, July, 2018

Student presentations at university level (internal) meetings:

1. Tina Truong (BS, Food Science) & Patricia Lai (MPS, Dairy Products Technology), Developing Novel Performance Nutrition Beverage Using Dairy Protein Ingredients, CAL POLY CAFES RESEARCH SYMPOSIUM, CALIFORNIA STATE UNIVERSITY, SAN LUIS OBISPO, MAY 10th, 2019 (Faculty Advisor: Haotian Zheng)
2. Larkin Ingram (Biomedical Engineering), Juan A Ortiz Salazar (Polymers and Coatings Science), Engineering innovative dairy emulsion droplets for mimicking native milk fat globules, CAL POLY CAFES RESEARCH SYMPOSIUM, CALIFORNIA STATE UNIVERSITY, SAN LUIS OBISPO, MAY 10th, 2019 (Faculty Advisor: Haotian Zheng)
3. Larkin Ingram, Engineering innovative dairy emulsion droplets for mimicking native milk fat globules, 2018 summer undergraduate research program, California Polytechnic State University (Faculty Advisor: Haotian Zheng)
4. Tim Guerzon, Exploring the application opportunities of Innovative milk protein concentrate (MPC), 2018 summer undergraduate research program, California Polytechnic State University (Faculty Advisor: Haotian Zheng)

Member of Conference Organizing Committee

1. 23rd Dairy Ingredients Technical Symposium (organized by ADPI), organizing committee/session chair (2021)
2. 22nd Dairy Ingredients Technical Symposium (organized by ADPI), organizing committee/session chair (Innovation for Dairy Ingredients Processes and Products I) , 10/12-16/2020 (Zheng)
3. 2020 ADSA annual meeting program committee member, chaired "Dairy Foods: Dairy Products" session (June 22-24, 2020).

Meeting participation

1. Nanotechnology for Food and Nutrition Security, by Research Triangle Nanotechnology Network (a partnership between NC State University, Duke University, and UNC Chapel Hill), March-9th-2021, <https://www.rtnn.ncsu.edu/nano-food-security/>

