

Curriculum Vitae  
**Jennifer T. Smilowitz**

Foods for Health Institute  
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**EDUCATION**

**Certified Lactation Educator**, Best Practices for Lactation Care, Pleasant Hill, 2015  
**Postdoctoral Scholar**, Department of Food Science & Technology, University of California Davis, 2009 - 2013  
**Ph.D. Nutritional Biology**, Specialization Endocrinology, University of California Davis, 2008  
**Fellow Business Development**, University of California Davis, 2006  
**B.Sc. Molecular, Cell and Developmental Biology**, University of California Los Angeles, 2001

**PROFESSIONAL EXPERIENCE**

**Director of Scientific and Strategic Development**, International Milk Genomics Consortium 2019 - current  
**Assistant Professional Researcher**, Department of Food Science & Technology, UC Davis 2013 - current  
**Associate Director**, Human Studies Research, Foods for Health Institute, UC Davis 2010 - current  
**Consultant**, MetaNutrix, Lafayette, CA 2009 - current

**AWARDS AND HONORS**

Excellence in Postdoctoral Research, University of California Davis, Finalist, 2012  
Centennial Symposia Competition, University of California Davis, First place Poster, 2008  
American Chemical Society--Withycombe Charalambous Symposium, Finalist, 2008  
Graduate Studies Travel Award, University of California Davis, 2008  
Little Bang, Medical & Biotechnology Innovations, University of California Davis, First place project, 2006  
Business Development Fellowship, University of California Davis, 2006  
Agricultural Research Service, USDA WHNRC Graduate Fellowship, University of California, Davis, 2001

**PROFESSIONAL MEMBERSHIPS**

American Breastfeeding Medicine (2017)  
International Lactation Consultant Association (2015-present)  
American Dietetic Association (2010 - present)  
American Society for Nutrition (2008 - present)  
American Chemical Society (2007- present)

**LEADERSHIP AND ACADEMIC SERVICE****Committees**

- North California Institute of Food Technologists and UC Davis Food Science and Technology 2019 Showcase Committee Member, January – March 2019.
- UC Davis Food Science and Technology Outreach Committee Member, January 2019-December 2021.
- Graduate Group in Food Science and Technology Outreach Committee Member, January 2019-December 2021.
- FFHI and Center for Mind and Brain “Nutrition and the Developing Mind Summit” Co-organizer, October 2015
- FFHI-UC Davis Comprehensive Cancer Center Conference Planning and Strategy Committee Member and moderator of the “Nutrition Interventions for Cancer” working group— 2012
- FFHI-WHRNC USDA Conference Planning and Strategy Committee Member—2012
- Human Studies Coordinator hiring Committee Chair—2011
- Lactation Education for Medical Professionals Conference Planning Committee Member—March 2011
- FFHI Mentorship Program Research Advisor—2009 -present
- FFHI Mentorship Program Director—2009- present

- FFHI Outreach Committee Chair—2009- present

#### Ad Hoc Reviewer

- *Ad hoc* Reviewer Scientific Reports, Jan 2019
- *Ad hoc* Reviewer Journal of Human Lactation, May 2017
- *Ad hoc* Reviewer PLOS ONE, 2016
- *Ad hoc* Reviewer Biomed Central Pregnancy and Childbirth, 2016
- *Ad hoc* Reviewer of Journal of Human Nutrition and Dietetics, 2015
- *Ad hoc* Reviewer Journal of Nutrition and Metabolism, 2015
- *Ad hoc* Reviewer of British Journal of Nutrition, 2014
- *Ad hoc* Reviewer Journal Molecular Nutrition Food Research, 2013
- *Ad hoc* Reviewer Journal of Nutrition, 2013
- *Ad hoc* Reviewer Journal of Clinical Nutrition, 2012
- *Ad hoc* Reviewer Journal of Nutrition and Metabolism, 2011
- *Ad hoc* Reviewer Journal of Nutrition, 2011
- *Ad hoc* Reviewer Journal of Clinical Nutrition, 2010
- *Ad hoc* Reviewer Journal of Agricultural and Food Chemistry, 2010

### PROFESSIONAL SERVICE

#### **Consultant, Evolve Biosystems Inc., Davis, September 2014-2016**

Designed human studies on the effects of breastfeeding and probiotic intake on the infant gut microbiome.

#### **Consultant, Abunda Nutrition, a biotechnology company, San Francisco, March 2011-December 2011**

Consulted the company on the interpretation of their bioactive molecule research to identify new value propositions.

#### **Consultant, NUMA, a startup company, San Francisco, January 2010**

Designed the nutritional formulation for a snack food targeted at pregnant and lactating women.

### TEACHING EXPERIENCE

#### University of California Davis

#### Co-instructor

- **Nutrition 250**, *Metabolic Homeostasis*, Fall 2004, 2005

#### Guest Lecture

- **Food Science and Technology 10**, *Food Science, Folklore and Health*, Lipids and fatty acid metabolism Fall, Winter, Spring 2005-2006
- **Food Science and Technology 100B**, *Food Properties*, Use of the postprandial challenge model to phenotype health and the science, technologies and education needed to improve diet and health personally, Winter 2010, 2011, 2013
- **Food Science and Technology 200**, *Food Chemistry and Biochemistry*, Lipids and fatty acid metabolism, Fall 2012
- **Food Science and Technology 230**, *Interactions of Food and the Gut Microbiota*, Designing food and microbiome studies, Spring 2019
- **Food Science and Technology 211**, *Lipids*, Fatty acid metabolism, Winter 2009-2013
- **Integrated Study Course 194**, *How to write a research paper?* Art and skill of writing research papers, Winter 2013,
- **Nutrition 116**, *Clinical Nutrition*, Lactation, Winter 2009-2013
- **Nutrition 260**, *Nutrition During Pregnancy*, Lipids, fatty acids and fat-soluble vitamins during pregnancy, Fall 2015, Fall 2017
- **Nutrition 298**, *Group Study*, Dietary lipids and metabolism, Fall 2012

#### TA

- **Food Science and Technology 1**, *Principles of Food Science*, Teaching Assistant, Fall 2005
- **Food Science and Technology 10**, *Food Science, Folklore and Health*, Teaching Assistant, Fall, Winter, Spring 2005-2006

- **Nutrition 10**, *Discoveries and Concepts in Nutrition*, Teaching Assistant, Fall, Winter, Spring 2003-2005

University of California Los AngelesTA

- **Molecular Cell Developmental Biology 30**, *The Biology of Cancer, Fall, Winter*, Teaching Assistant, 1999-2000, Fall 2000
- **Molecular Cell Developmental Biology 40**, *AIDS and other Sexually Transmitted Diseases*, Teaching Assistant, Fall, Winter, Spring 1998-1999

FUNDINGOngoing

**Mengniu Dairy Inc.**, *Mengniu-University of California Davis Foods For Health Institute Nutrition and Health Innovation Partnership*, \$1,484,474 (direct costs), 04/01/2017-10/31/2019, **Role: PI**

**Evolve Biosystems Inc.**, *Rescuing the microbiome effectively with different doses of B. infantis in infants trial (REMEDI)*, \$227,503 (direct costs), 10/01/2017-05/31/2019, **Role: PI**

**Clorox Renew Life**, *Effects of Streptococcus-containing probiotic on the microbiome in healthy human adults: Phase I randomized placebo-controlled study*, \$149,779 (direct costs), 06/12/2017-07/12/2019, **Role: PI**

Completed

**USDA**, *Cardiovascular and Immune Benefits to Elders from Increased Dairy*, \$30,000 (direct costs), 07/1/2017-08/31/2018, Marta Van Loan, PI; **Role: Co-I**

**UC Davis Institute for Social Sciences (Oakes)**, *An examination of the connection between gut microbiota and cognitive development in infancy*, \$10,000 (direct costs), 05/2015-06/2017, Lisa Oakes, PI; **Role: Co-PI**

**Oregon Health and Science University, Innovations Small Grant Award**, *Variability of Breast Milk Storage Technique and Impact on Infant Growth*, \$14,025 (direct costs), 04/2015-05/2016, Doria Thiele, PI; **Role: Co-PI**

**Evolve Biosystems Inc.**, *Infant Microbiota and Probiotic Intake*, \$145,969 (direct costs), 10/01/2014-09/30/2017, **Role: PI**

**Dairy Research Institute**, *Pilot Study: Tolerability of feeding different doses of bovine milk oligosaccharides for modifying gastrointestinal function in healthy individuals*, \$129,743 (direct costs), 10/2011-09/2012, Daniela Barile, PI; **Role: Co-I**

**Dairy Research Institute**, *Effects of Dairy Fat on Postprandial Inflammation*, \$599,458 (direct costs), 09/2011-08/2013, **Role: PI** with Angela Zivkovic (co-PI)

**Unilever**, *HDL Metabolism Modulation by Diet*, \$40,000 (direct costs), 09/2011-03/2012, **Role: PI**

PEER-REVIEWED PUBLICATIONS

1. Beals E, Kamita SG, Sacchi R, Demmer E, Rivera N, Rogers TS, Gertz ER, Van Loan MV, German JB, **Smilowitz JT**, Zivkovic AM. Addition of milk fat globule membrane enriched supplement to a high fat meal attenuates insulin secretion and induction of soluble epoxide hydrolase gene expression in the postprandial state in overweight and obese subjects. *JNS*. Accepted 3/8/2019.
2. Ye Yang, Ph.D.; Emilee Rader, Ph.D.; Michele Peters-Carr, CNM; Rebecca C. Bent, MD; **Jennifer T Smilowitz**, Ph.D.; Karen Guillemin, Ph.D.; Bethany Rader, Ph.D. Ontogeny of alkaline phosphatase activity in infant intestines and breast milk. *BMC Pediatrics*. Accepted 12/19/2018.

3. Sanctuary MR, Kain JN, Chen SY, Kalanetra K, Lemay DG, Rose D, Yang HT, German JB, Slupsky CM, Ashwood P, Mills DA, **Smilowitz JT**, Angkustsiri K. PLOS ONE. Pilot study to assess tolerability and gut microbial changes after combination probiotic and bovine colostrum supplementation in children with autism spectrum disorders and gastrointestinal symptoms. Accepted 12/18/2018.
4. Nijman, R., Y. Liu, A. Bunyatratkata, **J. T. Smilowitz**, B. Stahl, D. Barile. Characterization and quantification of oligosaccharides in human milk and infant formula. *Journal of Agricultural and Food Chemistry*. 2018.
5. Bever, C. S., A. A. Rand, M. Nording, D. Taft, K. M. Kalanetra, D. A. Mills, M. A. Breck, **J. T. Smilowitz**, J. B. German, B. D. Hammock. Effects of triclosan in breast milk on the infant fecal microbiome. *Chemosphere* 203, 467-473. 2018. doi:<https://doi.org/10.1016/j.chemosphere.2018.03.186>.
6. \*Henrick BM, Hutton AA, Palumbo MC, Casaburi G, Mitchell RD, Underwood MA, **Smilowitz JT**, Frese SA. Elevated Fecal pH Indicates a Profound Change in the Breastfed Infant Gut Microbiome Due to Reduction of Bifidobacterium over the Past Century. *mSphere*. 2018 Mar 7;3(2). pii: e00041-18. doi: 10.1128/mSphere. PMID: 29564397.
7. Scoble JA, **Smilowitz JT**, Argov-Argaman N, German JB, Underwood MA. Plasma Lipoprotein Particle Subclasses in Preterm Infants. *Am J Perinatol*. 2018 Mar;35(4):369-379. doi: 10.1055/s-0037-1607347. PMID: 29076117.
8. \*Meredith-Dennis L, Xu G, Goonatilleke E, Lebrilla CB, Underwood MA, **Smilowitz JT**. Composition and Variation of Macronutrients, Immune Proteins, and Human Milk Oligosaccharides in Human Milk From Nonprofit and Commercial Milk Banks. *J Hum Lact*. 2018 Feb;34(1):120-129. doi: 10.1177/0890334417710635. PMID: 28614672.
9. Cajka T, **Smilowitz JT**, Fiehn O. Validating Quantitative Untargeted Lipidomics Across Nine Liquid Chromatography-High-Resolution Mass Spectrometry Platforms. *Anal Chem*. 2017 Nov 21;89(22):12360-12368. doi: 10.1021/acs.analchem.7b03404. PMID: 29064229.
10. \*Frese SA, Hutton AA, Contreras LN, Shaw CA, Palumbo MC, Casaburi G, Xu G, Davis JCC, Lebrilla CB, Henrick BM, Freeman SL, Barile D, German JB, Mills DA, **Smilowitz JT**, Underwood MA. Persistence of Supplemented Bifidobacterium longum subsp. infantis EVC001 in Breastfed Infants. *mSphere*. 2017 Dec 6;2(6). pii: e00501-17. doi: 10.1128/mSphere.00501-17. PMID: 29242832.
11. **Smilowitz JT**, Moya J, Breck MA, Cook C, Fineberg A, Angkustsiri K, Underwood MA. Erratum to: Safety and tolerability of Bifidobacterium longum subspecies infantis EVC001 supplementation in healthy term breastfed infants: a phase I clinical trial. *BMC Pediatr*. 2017 Aug 15;17(1):180. doi: 10.1186/s12887-017-0932-7. PMID: 28810848.
12. **Smilowitz JT**, Moya J, Breck MA, Cook C, Fineberg A, Angkustsiri K, Underwood MA. Safety and tolerability of Bifidobacterium longum subspecies infantis EVC001 supplementation in healthy term breastfed infants: a phase I clinical trial. *BMC Pediatr*. 2017 May 30;17(1):133. doi: 10.1186/s12887-017-0886-9. Erratum in: *BMC Pediatr*. 2017 Aug 15;17(1):180. PubMed PMID: 28558732.
13. Krishnan S, Shimoda M, Sacchi R, Kailemia MJ, Luxardi G, Kaysen GA, Parikh AN, Ngassam VN, Johansen K, Chertow GM, Grimes B, **Smilowitz JT**, Maverakis E, Lebrilla CB, Zivkovic AM. HDL Glycoprotein Composition and Site-Specific Glycosylation Differentiates Between Clinical Groups and Affects IL-6 Secretion in Lipopolysaccharide-Stimulated Monocytes. *Sci Rep*. 2017 Mar 13;7:43728. doi: 10.1038/srep43728. PubMed PMID: 28287093; PubMed Central PMCID: PMC5347119.
14. Rogers TS, Demmer E, Rivera N, Gertz ER, German JB, **Smilowitz JT**, Zivkovic AM, Van Loan MD. The role of a dairy fraction rich in milk fat globule membrane in the suppression of postprandial inflammatory markers and bone turnover in obese and overweight adults: an exploratory study. *Nutr*

- Metab (Lond). 2017 May 17;14:36. doi: 10.1186/s12986-017-0189-z. eCollection 2017. PubMed PMID: 28529534; PubMed Central PMCID: PMC5436451.
15. **Smilowitz JT**, Lemay DG, Kalanetra KM, Chin EL, Zivkovic AM, Breck MA, German JB, Mills DA, Slupsky C, Barile D. Tolerability and safety of the intake of bovine milk oligosaccharides extracted from cheese whey in healthy human adults. *J Nutr Sci*. 2017 Feb 20;6:e6. doi: 10.1017/jns.2017.2. eCollection 2017. PubMed PMID: 28620481; PubMed Central PMCID: PMC5465862.
  16. Xu G, Davis JC, Goonatileke E, **Smilowitz JT**, German JB, Lebrilla CB. Absolute Quantitation of Human Milk Oligosaccharides Reveals Phenotypic Variations during Lactation. *J Nutr*. 2017 Jan;147(1):117-124. doi: 10.3945/jn.116.238279. Epub 2016 Oct 19. PubMed PMID: 27798342; PubMed Central PMCID: PMC5177733.
  17. Huang J, Kailemia MJ, Goonatileke E, Parker EA, Hong Q, Sabia R, **Smilowitz JT**, German JB, Lebrilla CB. Quantitation of Human Milk Proteins and their Glycoforms using Multiple Reaction Monitoring (MRM). *Analytical and bioanalytical chemistry* 2017, 409(2):589-606.
  18. Davis JC, Totten SM, Huang JO, Nagshbandi S, Kirmiz N, Garrido DA, Lewis ZT, Wu LD, **Smilowitz JT**, German JB, Mills DA, Lebrilla CB. Identification of Oligosaccharides in Feces of Breast-fed Infants and Their Correlation with the Gut Microbial Community. *Mol Cell Proteomics*. 2016 Sep;15(9):2987-3002. doi: 10.1074/mcp.M116.060665. Epub 2016 Jul 19. PubMed PMID: 27435585; PubMed Central PMCID: PMC5013312.
  19. Awasthi S, Wilken R, Patel F, German JB, Mills DA, Lebrilla CB, Kim K, Freeman SL, **Smilowitz JT**, Armstrong AW, Maverakis E. Dietary supplementation with *Bifidobacterium longum* subsp. *infantis* (*B. infantis*) in healthy breastfed infants: study protocol for a randomised controlled trial. *Trials*. 2016 Jul 22;17(1):340. doi: 10.1186/s13063-016-1467-1. PubMed PMID: 27449926; PubMed Central PMCID: PMC4957407.
  20. \*Cajka T, Davis R, Austin KJ, Newman JW, German JB, Fiehn O, **Smilowitz JT**. Using a lipidomics approach for nutritional phenotyping in response to a test meal containing gamma-linolenic acid. *Metabolomics : Official journal of the Metabolomic Society*. 2016; 12:1-16.
  21. Demmer E, Van Loan MD, Rivera N, Rogers TS, Gertz ER, German JB, **Smilowitz JT**, Zivkovic AM. Addition of a dairy fraction rich in milk fat globule membrane to a high-saturated fat meal reduces the postprandial insulinaemic and inflammatory response in overweight and obese adults. *J Nutr Sci*. 2016 Mar 7;5:e14. doi: 10.1017/jns.2015.42. eCollection 2016. PubMed PMID: 27313850; PubMed Central PMCID: PMC4791522.
  22. \*Demmer E, Van Loan MD, Rivera N, Rogers TS, Gertz ER, German JB, Zivkovic AM, **Smilowitz JT**. Consumption of a high-fat meal containing cheese compared with a vegan alternative lowers postprandial C-reactive protein in overweight and obese individuals with metabolic abnormalities: a randomised controlled cross-over study. *J Nutr Sci*. 2016 Feb 9;5:e9. doi: 10.1017/jns.2015.40. eCollection 2016. PubMed PMID: 27313852; PubMed Central PMCID: PMC4791521.
  23. Zeng NF, Mancuso JE, Zivkovic AM, **Smilowitz JT**, Ristenpart WD. Red Blood Cells from Individuals with Abdominal Obesity or Metabolic Abnormalities Exhibit Less Deformability upon Entering a Constriction. *PLoS One*. 2016 Jun 3;11(6):e0156070. doi: 10.1371/journal.pone.0156070. eCollection 2016. PubMed PMID: 27258098; PubMed Central PMCID: PMC4892523.
  24. Napoli E, Ross-Inta C, Song G, Wong S, Hagerman R, Gane LW, **Smilowitz JT**, Tassone F, Giulivi C. Premutation in the Fragile X Mental Retardation 1 (FMR1) Gene Affects Maternal Zn-milk and Perinatal Brain Bioenergetics and Scaffolding. *Front Neurosci*. 2016 Apr 19;10:159. doi: 10.3389/fnins.2016.00159. eCollection 2016. PubMed PMID: 27147951; PubMed Central PMCID: PMC4835505.

25. Lewis ZT, Davis JC, **Smilowitz JT**, German JB, Lebrilla CB, Mills DA. The impact of freeze-drying infant fecal samples on measures of their bacterial community profiles and milk-derived oligosaccharide content. *PeerJ*. 2016 Jan 21;4:e1612. doi: 10.7717/peerj.1612. eCollection 2016. PubMed PMID: 26819854; PubMed Central PMCID: PMC4727960.
26. Goldsmith F, O'Sullivan A, **Smilowitz JT**, Freeman SL. Lactation and Intestinal Microbiota: How Early Diet Shapes the Infant Gut. *J Mammary Gland Biol Neoplasia*. 2015 Dec;20(3-4):149-58. doi: 10.1007/s10911-015-9335-2. Epub 2015 Jul 31. Review. PubMed PMID: 26227402.
27. Spevacek AR, **Smilowitz JT**, Chin EL, Underwood MA, German JB, Slupsky CM. Infant Maturity at Birth Reveals Minor Differences in the Maternal Milk Metabolome in the First Month of Lactation. *J Nutr*. 2015 Aug;145(8):1698-708. doi: 10.3945/jn.115.210252. Epub 2015 Jun 3. PubMed PMID: 26041675; PubMed Central PMCID: PMC4516766.
28. Beck KL, Weber D, Phinney BS, **Smilowitz JT**, Hinde K, Lönnerdal B, Korf I, Lemay DG. Comparative Proteomics of Human and Macaque Milk Reveals Species-Specific Nutrition during Postnatal Development. *J Proteome Res*. 2015 May 1;14(5):2143-57. doi: 10.1021/pr501243m. Epub 2015 Apr 6. PubMed PMID: 25757574.
29. Huang J, Guerrero A, Parker E, Strum JS, **Smilowitz JT**, German JB, Lebrilla CB. Site-specific glycosylation of secretory immunoglobulin A from human colostrum. *J Proteome Res*. 2015 Mar 6;14(3):1335-49. doi: 10.1021/pr500826q. Epub 2015 Feb 11. PubMed PMID: 25629924; PubMed Central PMCID: PMC5519350.
30. Dallas DC, Smink CJ, Robinson RC, Tian T, Guerrero A, Parker EA, **Smilowitz JT**, Hettinga KA, Underwood MA, Lebrilla CB, German JB, Barile D. Endogenous human milk peptide release is greater after preterm birth than term birth. *J Nutr*. 2015 Mar;145(3):425-33. doi: 10.3945/jn.114.203646. Epub 2014 Dec 24. PubMed PMID: 25540406; PubMed Central PMCID: PMC4336528.
31. \*Grapov D, Lemay DG, Weber D, Phinney BS, Azulay Chertok IR, Gho DS, German JB, **Smilowitz JT**. The human colostrum whey proteome is altered in gestational diabetes mellitus. *J Proteome Res*. 2015 Jan 2;14(1):512-20. doi: 10.1021/pr500818d. Epub 2014 Dec 1. PubMed PMID: 25338220; PubMed Central PMCID: PMC4286167.
32. Lewis ZT, Totten SM, **Smilowitz JT**, Popovic M, Parker E, Lemay DG, Van Tassell ML, Miller MJ, Jin YS, German JB, Lebrilla CB, Mills DA. Maternal fucosyltransferase 2 status affects the gut bifidobacterial communities of breastfed infants. *Microbiome*. 2015 Apr 10;3:13. doi: 10.1186/s40168-015-0071-z. eCollection 2015. PubMed PMID: 25922665; PubMed Central PMCID: PMC4412032.
33. \*O'Sullivan A, Farver M, **Smilowitz JT**. The Influence of Early Infant-Feeding Practices on the Intestinal Microbiome and Body Composition in Infants. *Nutr Metab Insights*. 2015 Dec 16;8(Suppl 1):1-9. doi: 10.4137/NMI.S29530. eCollection 2015. Erratum in: *Nutr Metab Insights*. 2016 Oct 27;8(Suppl 1):87. PubMed PMID: 26715853; PubMed Central PMCID: PMC4686345.
34. Totten SM, Wu LD, Parker EA, Davis JC, Hua S, Stroble C, Ruhaak LR, **Smilowitz JT**, German JB, Lebrilla CB. Rapid-throughput glycomics applied to human milk oligosaccharide profiling for large human studies. *Anal Bioanal Chem*. 2014 Dec;406(30):7925-35. doi: 10.1007/s00216-014-8261-2. Epub 2014 Oct 31. PubMed PMID: 25358913.

35. Khaldi N, Vijayakumar V, Dallas DC, Guerrero A, Wickramasinghe S, **Smilowitz JT**, Medrano JF, Lebrilla CB, Shields DC, German JB. Predicting the important enzymes in human breast milk digestion. *J Agric Food Chem*. 2014 Jul 23;62(29):7225-32. doi: 10.1021/jf405601e. Epub 2014 Jul 10. PubMed PMID: 24620897; PubMed Central PMCID: PMC4264622.
36. **Smilowitz JT**, Gho DS, Mirmiran M, German JB, Underwood MA. Rapid measurement of human milk macronutrients in the neonatal intensive care unit: accuracy and precision of fourier transform mid-infrared spectroscopy. *J Hum Lact*. 2014 May;30(2):180-9. doi: 10.1177/0890334413517941. Epub 2014 Jan 14. PubMed PMID: 24423984.
37. Hong Q, Ruhaak LR, Totten SM, **Smilowitz JT**, German JB, Lebrilla CB. Label-free absolute quantitation of oligosaccharides using multiple reaction monitoring. *Anal Chem*. 2014 Mar 4;86(5):2640-7. doi: 10.1021/ac404006z. Epub 2014 Feb 20. PubMed PMID: 24502421; PubMed Central PMCID: PMC3983013.
38. Huang J, Lee H, Zivkovic AM, **Smilowitz JT**, Rivera N, German JB, Lebrilla CB. Glycomic analysis of high density lipoprotein shows a highly sialylated particle. *J Proteome Res*. 2014 Feb 7;13(2):681-91. doi: 10.1021/pr4012393. Epub 2014 Jan 21. PubMed PMID: 24417605; PubMed Central PMCID: PMC3975653.
39. **Smilowitz JT**, Lebrilla CB, Mills DA, German JB, Freeman SL. Breast milk oligosaccharides: structure-function relationships in the neonate. *Annu Rev Nutr*. 2014;34:143-69. doi: 10.1146/annurev-nutr-071813-105721. Epub 2014 May 15. Review. PubMed PMID: 24850388; PubMed Central PMCID: PMC4348064.
40. Lemay DG, Hovey RC, Hartono SR, Hinde K, **Smilowitz JT**, Ventimiglia F, Schmidt KA, Lee JW, Islas-Trejo A, Silva PI, Korf I, Medrano JF, Barry PA, German JB. Sequencing the transcriptome of milk production: milk trumps mammary tissue. *BMC Genomics*. 2013 Dec 12;14:872. doi: 10.1186/1471-2164-14-872. PubMed PMID: 24330573; PubMed Central PMCID: PMC3871720.
41. **Smilowitz JT**, Totten SM, Huang J, Grapov D, Durham HA, Lammi-Keefe CJ, Lebrilla C, German JB. Human milk secretory immunoglobulin a and lactoferrin N-glycans are altered in women with gestational diabetes mellitus. *J Nutr*. 2013 Dec;143(12):1906-12. doi: 10.3945/jn.113.180695. Epub 2013 Sep 18. PubMed PMID: 24047700; PubMed Central PMCID: PMC3827637.
42. **Smilowitz JT**, O'Sullivan A, Barile D, German JB, Lönnerdal B, Slupsky CM. The human milk metabolome reveals diverse oligosaccharide profiles. *J Nutr*. 2013 Nov;143(11):1709-18. doi: 10.3945/jn.113.178772. Epub 2013 Sep 11. PubMed PMID: 24027187; PubMed Central PMCID: PMC4083237.
43. Ruiz-Moyano S, Totten SM, Garrido DA, Smilowitz JT, German JB, Lebrilla CB, Mills DA. Variation in consumption of human milk oligosaccharides by infant gut-associated strains of *Bifidobacterium breve*. *Appl Environ Microbiol*. 2013 Oct;79(19):6040-9. doi: 10.1128/AEM.01843-13. Epub 2013 Jul 26. PubMed PMID: 23892749; PubMed Central PMCID: PMC3811376.
44. **Smilowitz JT**, Zivkovic AM, Wan YJ, Watkins SM, Nording ML, Hammock BD, German JB. Nutritional lipidomics: molecular metabolism, analytics, and diagnostics. *Mol Nutr Food Res*. 2013 Aug;57(8):1319-35. doi: 10.1002/mnfr.201200808. Epub 2013 Jul 1. Review. PubMed PMID: 23818328; PubMed Central PMCID: PMC3806310.



45. Dallas DC, Guerrero A, Khaldi N, Castillo PA, Martin WF, **Smilowitz JT**, Bevins CL, Barile D, German JB, Lebrilla CB. Extensive in vivo human milk peptidomics reveals specific proteolysis yielding protective antimicrobial peptides. *J Proteome Res.* 2013 May 3;12(5):2295-304. doi: 10.1021/pr400212z. Epub 2013 Apr 24. PubMed PMID: 23586814; PubMed Central PMCID: PMC3662810.
46. De Leoz ML, Gaerlan SC, Strum JS, Dimapasoc LM, Mirmiran M, Tancredi DJ, **Smilowitz JT**, Kalanetra KM, Mills DA, German JB, Lebrilla CB, Underwood MA. Lacto-N-tetraose, fucosylation, and secretor status are highly variable in human milk oligosaccharides from women delivering preterm. *J Proteome Res.* 2012 Sep 7;11(9):4662-72. doi: 10.1021/pr3004979. Epub 2012 Aug 28. PubMed PMID: 22900748; PubMed Central PMCID: PMC3478894.
47. Barboza M, Pinzon J, Wickramasinghe S, Froehlich JW, Moeller I, **Smilowitz JT**, Ruhaak LR, Huang J, Lönnerdal B, German JB, Medrano JF, Weimer BC, Lebrilla CB. Glycosylation of human milk lactoferrin exhibits dynamic changes during early lactation enhancing its role in pathogenic bacteria-host interactions. *Mol Cell Proteomics.* 2012 Jun;11(6):M111.015248. doi: 10.1074/mcp.M111.015248. Epub 2012 Jan 19. PubMed PMID: 22261723; PubMed Central PMCID: PMC3433903.
48. **Smilowitz JT**, Wiest MM, Teegarden D, Zemel MB, German JB, Van Loan MD. Dietary fat and not calcium supplementation or dairy product consumption is associated with changes in anthropometrics during a randomized, placebo-controlled energy-restriction trial. *Nutr Metab (Lond).* 2011 Oct 5;8:67. doi: 10.1186/1743-7075-8-67. PubMed PMID: 21970320; PubMed Central PMCID: PMC3204227.
49. Dallas DC, Martin WF, Strum JS, Zivkovic AM, **Smilowitz JT**, Underwood MA, Affolter M, Lebrilla CB, German JB. N-linked glycan profiling of mature human milk by high-performance microfluidic chip liquid chromatography time-of-flight tandem mass spectrometry. *J Agric Food Chem.* 2011 Apr 27;59(8):4255-63. doi: 10.1021/jf104681p. Epub 2011 Mar 18. PubMed PMID: 21384928; PubMed Central PMCID: PMC4422756.
50. Laugero KD, **Smilowitz JT**, German JB, Jarcho MR, Mendoza SP, Bales KL. Plasma omega 3 polyunsaturated fatty acid status and monounsaturated fatty acids are altered by chronic social stress and predict endocrine responses to acute stress in titi monkeys. *Prostaglandins Leukot Essent Fatty Acids.* 2011 Mar-Apr;84(3-4):71-8. doi: 10.1016/j.plefa.2010.12.003. Epub 2011 Jan 5. PubMed PMID: 21211954.
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### **NON-PEER-REVIEWED PUBLICATIONS**

Zivkovic AM, **Smilowitz JT**, German JB. Future of food matching personal diets to individual phenotypes. *Food Science & Technology*, 25th Anniversary issue. 2011; 24-25.

**Smilowitz JT**, Dillard CJ, German JB. Milk beyond essential nutrients: the metabolic food. *Australian Journal of Dairy Technology*. 2005;60:77-83.

### **BOOK CHAPTERS**

**Smilowitz JT**, German JB, Zivkovic AM. Food Intake and Obesity: The Case of Fat. Fat Detection: Taste, Texture, and Post-ingestive Effects. Montmayeur, J. P. & Le Coutre, J. *Fat detection: Taste, texture, and post ingestive effects*. (CRC, 2009).

German, J. B., Dillard, C. J., Hillyard, S. L., Lange, M. C., **Smilowitz, J. T.**, Ward, R. E. & Zivkovic, A. M. Metabolomics: Bringing Nutrigenomics to Practice in Individualized Health Assessment. Nutritional Genomics: Discovering the Path to Personalized Nutrition, 85 (2006).

### **ABSTRACTS - POSTERS**

- Diane Tu, Carol Stroble, Gege Xu, Matthew J. Amicucci, **Jennifer T. Smilowitz**, Carlito B. Lebrilla. Rapid Throughput Quantitation of Carboxylic Acid Metabolites Using UHPLC/QqQ-MS to Monitor Diet and the Microbiome. American Society of Mass Spectrometry (ASMS). Atlanta, GA. 2019.
- Bethany Henrick, **Jennifer T. Smilowitz**. Restoring the Natural Infant Gut Microbiome with *Bifidobacterium infantis* EVC001 Significantly Reduces Intestinal Inflammation. Pediatric Academic Societies (PAS). Baltimore, MD. 2019.
- Giorgio Casaburi, **Jennifer T. Smilowitz**. Early-life gut microbiome modulation reduces the abundance of antibiotic resistant bacteria. Pediatric Academic Societies (PAS). Baltimore, MD. 2019.
- Doria K. Thiele, Karina Kurudimov, **Jennifer T. Smilowitz**. Factors influencing exclusive breastfeeding, maternal perception of the breastfeeding experience, and breastmilk expression and storage techniques. ILCA. Portland, OR. 2018.
- Elisha Goonatileke, Mariana Barboza Gardner, **Jennifer T Smilowitz**, Carlito B. Lebrilla. Protein-specific glycomic analysis yielded extensive IgA glycosylation and biologically important tissue specific variations. ASMS. San Diego, CA. 2018.
- Jennifer T. Smilowitz**, Steven A. Frese, Andra A. Hutton, Lindsey N. Contreras, Claire A. Shaw, Ryan Mitchell, Mark A. Underwood. *Bifidobacterium longum* subsp. *infantis* stably restores the infant gut microbiome over the first year of life in breastfed infants. Pediatric Academic Societies. Toronto, Canada. 2018.
- Giorgio Casaburi, Daniel Vance, Rebecca M. Duar, Steven A. Frese, **Jennifer T. Smilowitz**, Mark A. Underwood. Metagenomic analysis reveals reduction in antibiotic resistance gene carriage in breastfed infants fed activated *Bifidobacterium longum* subsp. *infantis* EVC001. Pediatric Academic Societies. Toronto, Canada. 2018.
- Bethany M. Henrick, Andra A. Hutton, Michelle C. Palumbo, Giorgio Casaburi, Mark A. Underwood, **Jennifer T. Smilowitz**, and Steven A. Frese. Changes in infant fecal pH shows a population-wide, generational loss

- of *Bifidobacterium* among breastfed infants over the last century. Pediatric Academic Societies. Toronto, Canada. 2018.
- Giorgio Casaburi, Daniel P. Vance, Steven A. Frese, **Jennifer T. Smilowitz**, Mark Underwood. Supplementation with *Bifidobacterium longum subsp. infantis* EVC001 reduces virulence gene burden in the gut microbiome of breastfed infants. Pediatric Academic Societies. Toronto, Canada. 2018.
- Jennifer T. Smilowitz**, Mark A. Underwood, Steven A. Frese, Andra A. Hutton, Lindsey N. Contreras, Claire A. Shaw, Carlito B. Lebrilla, Samara L. Freeman, Daniela Barile, J. Bruce German, David A. Mills. *Bifidobacterium longum subsp. infantis* stably restores the infant gut microbiome over the first year of life in breastfed infants. American Academy of Pediatrics. Chicago, IL. 2017.
- Giorgio Casaburi, PhD, Andra A. Hutton MS, Claire A. Shaw, Steven A. Frese PhD, **Jennifer T. Smilowitz** PhD<sup>3</sup>, Mark A. Underwood MD. Metagenomic analysis reveals reduction in antibiotic resistance gene carriage in breastfed infants supplemented with activated *Bifidobacterium longum subsp. infantis*. American Academy of Pediatrics. Chicago, IL. 2017.
- Jennifer T. Smilowitz**, Mark A. Underwood<sup>3</sup>, Andra A. Hutton, Lindsey N. Contreras, Michelle C. Palumbo, Claire A. Shaw, Steven A. Frese. Loss of the keystone infant gut symbiont, *Bifidobacterium*, has fundamentally changed fecal biochemistry in breastfed infants over the past century. American Academy of Pediatrics. Chicago, IL. 2017.
- Tomas Cajka, **Jennifer T. Smilowitz**, Oliver Fiehn. Comparison of eight high-resolution LC-MS platforms validates accurate quantifications in untargeted plasma lipidomics. ASMS. San Deigo, CA. 2017.
- Jennifer T. Smilowitz** PhD, Melissa A. Breck, Jackeyln Moya, Annette Fineberg MD, Mark Underwood MD. Safety and Tolerability in Consuming *Bifidobacterium longum* subspecies *infantis* in exclusively breastfed term infant. American Academy of Pediatrics. San Diego, CA. 2016.
- Steven A. Frese PhD, Andra Hutton MS, Lindsey N. Contreras, Claire A. Shaw, Jackelyn Moya, Melissa A. Breck, Annette Fineberg MD, Mark Underwood MD, **Jennifer T. Smilowitz** PhD. The IMPRINT (Infant Microbiota and Probiotic Intake) Study: Microbiome Remodeling in Breast-fed Term Infants Following Supplementation and Subsequent Colonization of a Keystone Bifidobacterium Species. American Academy of Pediatrics. San Diego, CA. 2016.
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- Cajka T, **Smilowitz JT**, German JB, Fiehn O. Nutritional metabolic phenotyping using a novel LC-SWATH-MS approach: A dietary challenge containing gamma-linolenic acid. Metabolomics. San Francisco CA. 2015
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- Demmer E, Rogers T, Rivera N, Gertz E, German JB, Zivkovic AM, Van Loan M. **Smilowitz JT**. Effects of Consuming Dairy Fat vs Plant-based Fat with and without Milk Fat Globule Membrane on Postprandial Inflammatory Markers in Overweight and Obese Adults. Experimental Biology. Boston MA. 2015.
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- Scoble J, **Smilowitz JT**, German JB, Underwood MA. Distribution of Plasma Lipoprotein Size in Preterm Infants in the First Month of Life, Western Society for Pediatric Research. Carmel, CA. 2013
- Lemay DG, Hinde K, Hovey RC, **Smilowitz JT**, Hartono SR, Ventimiglia F, Schmidt KA, Lee JW, Barry JA, German JB. Effects of milk collection and processing methods on origin and integrity of RNA in milk. Experimental Biology. San Diego, CA. 2012.
- Hartono SR, Ventimiglia F, **Smilowitz JT**, German JB, Korf I, Lemay DG. An automated method to quantify milk fat globules and sources of RNA in milk. San Diego, CA. 2012.

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- Lerno L, **Smilowitz JT**, German JB, Lebrilla CB. Development of a rapid, non-invasive method for profiling stratum corneum ceramides employing D-squame disks and hybrid ESI FT-ICR mass spectrometry. American Society of Mass Spectrometry. Denver, CO. 2011.
- Eigenheer RT, **Smilowitz JT**, Phinney B. Proteomic Analysis of Oxidative Damage to Epithelium by Ultraviolet Light. American Society of Mass Spectrometry. Salt Lake City, Utah. 2010.
- Eigenheer RT, **Smilowitz JT**, Phinney B. Proteomic Comparison of Photoaging and Chronological Aging by ANOVA and Bayes Factors. Association of Biomolecular Resource Facilities. Sacramento, CA. 2010.
- Smilowitz JT**, Argov N, Eigenheer RA, Lemay DG, German JB. Metabolic Phenotyping to Assess Personalized Nutrition: Use of the Response-to-Challenge Model. Experimental Biology, Anaheim, CA. 2010.
- Smilowitz JT**, Argov N, German JB. Effects of Dairy Fat on Intestinally Derived HDL in the Postprandial State. International Dairy Federation. Berlin, Germany. 2009.
- Smilowitz JT**, Newman J, German JB. Metabolic Assessment through Individual Lipid Pathway Phenotyping. Experimental Biology, Washington DC, MD. 2008.
- Smilowitz JT**, Van Loan M, German JB. Dairy food consumption alters lipid responses in humans. Experimental Biology, San Francisco, CA. 2006.
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- Smilowitz JT**, Horn B, Keim N. Refined grain carbohydrates increase plasma glucose, insulin and leptin levels compared to whole grain carbohydrates in overweight females. Experimental Biology, San Diego, CA. 2003.

### **INVITED TALKS**

- Restoring the infant gut microbiome in breastfed infants over the first year of life Got Milk? Variability in Milk Composition and Effects on Offspring Health. American Dietetic Association 79<sup>th</sup> Scientific Sessions, CA. June 2019.
- Factors that influence the infant gut microbiome. Contra Costa Regional Medical Center, Grand Rounds Presentation. Contra Costa County, CA. March 2019.
- *Bifidobacterium Longum* Subsp. *Infantis* Stably Restores the Infant Gut Microbiome Over the First Year of Life in Breastfed Infants. International Milk Genomics Consortium. Sacramento, CA. Nov 2018.
- Community Science Cafe Conversations: Restoring the Infant Gut Microbiome, A Conversation with Dr. Smilowitz. Research and Education Community Advisory Board. Sacramento, CA. July 2018.
- Restoring the Infant Gut Microbiome in an industrialized World. UC Davis Center for Mind and Brain. Davis, CA. July 2018.
- *Bifidobacterium longum* subsp. *infantis* stably restores the infant gut microbiome over the first year of life in breastfed infants. American Society for Nutrition. Boston, MA. June 2018.
- Delivery mode and the infant's diet, influence long-term development of the gut microbiome. Contra Costa County WIC, CA. November 2017.
- A Heritage of Health: Your Baby's Gut Microbiome, Contra Costa County Breastfeeding Task Force WIC. Contra Costa County, CA. November 2017.
- Establishing the infant gut microbiome from delivery, diet and environment and consequences on health. Contra Costa Regional Medical Center, Grand Rounds Presentation. Contra Costa County, CA. October 2017.
- Delivery mode and the infant's specific diet, influence long-term development of the gut microbiome. Contra Costa County WIC, CA. January 2017.
- Factors that influence long-term development of the gut microbiome. What do we know now that we did not know 5 years ago? Kaiser Pinole, Breastfeeding: Comprehensive Content Course. Pinole, CA. November 2016.
- Safety and Tolerability following Consumption of *Bifidobacterium longum* subspecies *infantis* in exclusively breastfed term infants: IMPRINT Study, International Milk Genomics Consortium. Davis, CA. October 2016.

- How delivery mode and the infant's diet, influence the developing gut microbiome. Kaiser Vallejo, Breastfeeding: Comprehensive Content Course. Vallejo, CA. June 2016.
- The International Childbirth Education Association; invited lecture, Carmichael, CA. June 2016.
- Establishing the infant gut microbiome from delivery, diet and environment and consequences on health, California WIC Annual Conference and Trade Show. San Diego, CA. April 2016.
- How the mode of delivery, and the infant's specific diet, influence long-term development of the gut microbiome. What do we know now that we did not know 5 years ago? Kaiser Roseville, Breastfeeding: Comprehensive Content Course. Roseville, CA. March 2016.
- Mother's Milk for Profit: Focus on Health Equity, Public Health Boots on the Ground Series UC Berkeley. Berkeley, CA. February 2016
- Influences of the infant intestinal microbiome, Sacramento County WIC, Rancho Cordova, CA. February 2016.
- Introducing the IMPRINT Study, California Breastfeeding Summit Creating a Constellation: Charting the Course for Breastfeeding Success. Sacramento, CA. February 2016
- Influences of the infant intestinal microbiome, Sacramento Breastfeeding Coalition Fall Mixer. Sacramento, CA. November 2015.
- Effects of gestational diabetes mellitus on protective factors in human milk, UC Davis Center for Mind and Brain Summit Series: Nutrition and the Developing Mind, Center for Mind and Brain. Davis, CA. October 2015.
- Building the Science, Technologies and Education to Personalize Diet and Health, National Agricultural Biotechnology Council, National Biotechnology Conference, Davis, CA. June 2010,
- Bringing Synbiotic Interventions in Cancer to Practice: from bench to bedside, Cancer Research Symposium, UC Davis Comprehensive Cancer Center, Sacramento, CA. September, 2012.
- Biochemical Phenotyping to Assess Individual Metabolism: a Bioguide for the Agriculture Industry. American Chemical Society, Withycombe-Charalambous Graduate Student Symposium. New Orleans, LA. April 2008.