

Exponent®
Engineering & Scientific Consulting

Nega Beru, Ph.D.

Senior Managing Scientist | Chemical Regulation and Food Safety
Washington DC
+1-240-463-1579 | nberu@exponent.com

Professional Profile

Before joining Exponent on April 16, 2018, Dr. Beru served as the Director of the Office of Food Safety in FDA's Center for Food Safety and Applied Nutrition (CFSAN) from August 2006 to December 2017. In that capacity he provided leadership on public health policy and regulatory issues for about 200 food safety professionals in four policy division and two staffs (Division of Plant Products and Beverages, Division of Produce Safety, Division of Dairy, Egg, Meat Product Safety, Division of Seafood Safety, Retail Food Protection Staff, and Multi-Commodity Foods Staff) as well as two research divisions (Division of Food Processing Science and Technology and Division of Seafood Science and Technology). He oversaw the development and issuance of several regulations as well as guidances for industry.

Previously, he served as Associate Director of the Office of Plant and Dairy Foods (predecessor to the Office of Food Safety) from January 2005 to July 2006. From December 1999 to December 2004, Dr. Beru served as Director of the Division of Plant Product Safety in that office. Between 1991 when he joined FDA and 1999, he worked in the Office of Food Additive Safety, where among other duties, he oversaw industry consultations with FDA regarding foods derived from genetically engineered plants as a consumer safety officer and later as a team leader in the Biotechnology Policy Branch.

Dr. Beru received a bachelor's degree in the biological sciences in 1974 from the University of Chicago, and a Ph.D. in Biochemistry from the Department of Biochemistry and Molecular Biology in 1983 also at the University of Chicago. He stayed on in the department as a postdoctoral research associate/instructor and joined the faculty of the Department of Medicine, Section of Hematology/Oncology in 1988 where he became a research associate/assistant professor before joining FDA in 1991. Dr. Beru served as head of the US Delegation to the Codex Committee on Contaminants in Foods from 2007 to 2015.

Academic Credentials & Professional Honors

Ph.D., Biochemistry, University of Chicago, 1983

M.S., Biochemistry, University of Chicago, 1979

B.S., Biological Sciences, University of Chicago, 1974

Significant and Recent Honor Awards

FDA's Special Act or Service Award for work on the Flavr Savr tomato, 1994.

FDA's Commendable Service Award for outstanding performance in the evaluation of scientific data and the clear presentation of findings concerning the first whole food developed using recombinant DNA technology, 1995.

FDA's Award of Merit for outstanding performance in expediting a decision on the olestra food additive petition, 1996.

FDA's Commendable Service Award for outstanding performance in establishing and administering procedures to review and consult with developers of new, genetically engineered varieties of plants to be used for food, 1999.

CFSAN's Quality Performance Award for sustained excellent performance in managing the Office responsibilities for genetically engineered foods, 1999.

FDA's Group Recognition Award for outstanding performance in the development of the FDA guidance for industry, regarding the use of antibiotic resistance genes as selectable markers in transgenic plants, 1999.

FDA's Group Recognition Award for outstanding exceptional performance in organizing meetings that enabled a diverse and concerned public to productively participate in the Agency=s policy process for bioengineered food, 2000.

CFSAN's Team Award for efforts to manage the regulatory problem with StarLink corn, developing a methodology testing for the presence of residues, and coordinating with EPA and USDA, 2001.

FDA's Commissioner's Special Citation as a member of the Bioterrorism Act Recordkeeping Final Rule Team for extraordinary contributions in reviewing public comments and drafting the final rule to implement the establishment and maintenance of records under the Bioterrorism Act provision, 2005.

FDA's Outstanding Service Award for outstanding effort in developing guidance on the recommended maximum lead levels in candy, 2006.

CFSAN's Exceptional Achievement Award as a member of the Allergen Threshold Workgroup for outstanding contributions in constructing a comprehensive, cohesive analysis of available strategies and supporting data for establishing indices of success in controlling food allergens and gluten in food, 2006.

CFSAN's Team Spirit Award as a member of the Fresh-Cut Team for outstanding effort in developing guidance for industry to minimize food safety hazards for fresh-cut fruits and vegetables, 2006.

FDA Commissioner's Special Citation as a member of FDA's TOPOFF 3 Exercise Group for significant contributions to the Nation's preparedness goals through planning and participation in the TOPOFF 3 Terrorism Exercise series, 2006.

FDA Group Recognition Award for outstanding efforts in developing the report to Congress required by the Food Allergen Labeling and Consumer Protection Act, 2007.

FDA Leveraging/Collaboration Award as a member of the Leafy Greens Safety Initiative Group for collaboration and leveraging in the implementation of the Leafy Greens Safety initiative resulting in improved infrastructure, public health preparedness, and research partnerships, 2007.

FDA Leveraging/Collaboration Award in recognition of the outstanding interagency cooperation in response to the discovery of polonium in Nevada well water, 2008.

FDA Group Recognition Award as a member of the Salmonella in Peanut Butter Outbreak Response Group in recognition of the significant interagency response to the Salmonella Tennessee outbreak associated with peanut butter, 2008.

FDA Group Recognition Award as a member of the FDA TOPOFF 4 Exercise Group for exceptional participation in and support of FDA's role in TOPOFF 4, the most comprehensive congressionally mandated full-scale multi-faceted terrorism exercise conducted in the US, 2008.

FDA Group Recognition Award as a member of the Botulinum Toxin Response Group in recognition of the superior collaboration and response to the outbreak of botulinum toxin in canned chili sauce, 2008.

FDA Commissioner's Special Citation Award for superior achievement in FDA's Emergency Operations Center's coordination of the Agency's Salmonella Saint Paul outbreak response activities, 2009.

CFSAN Legacy Award as a member of the CFSAN Leadership Development Board for successfully launching Leaders Developing Leaders Program, continuing to improve and achieve intended goal, developing leaders with competencies for next generation Center mission challenges anticipated, 2010.

FDA Produce Safety Outreach and Collaboration Team award for excellence in developing and executing a strategy to reach out to diverse groups of farmers who will be affected by new produce safety regulations, 2011.

FDA Group Recognition Award for providing exceptional technical expertise in the review, assessment and evaluation of microbiological sampling projects during the prioritization effort, 2011.

CFSAN Group Recognition Award as a member of The Egg Safety Rollout Team for successful presentation of the egg safety rule at a series of public meetings, 2011.

FDA Plain Language Award as a member of the FDA Budget Formulation Narrative Group for 6 clearly documenting how FDA public health programs promote efficiency and generate savings for patients, consumers and industry stakeholders, 2011.

FDA Group Recognition Award for exceptional contribution and outstanding dedication to the agency's response effort in the aftermath of Hurricane Sandy, 2013.

FDA Commissioner's Special Citation as member of the crisis and communication and engagement team, 2015.

Institute for Food Safety and Health Lifetime Achievement Award, 2017.

CFSAN Director's Distinguished Career Service Award, 2017.

FDA Commissioner's Distinguished Career Service Award, 2017

Prior Experience

Career at FDA, Center for Food Safety and Applied Nutrition

Director, Office of Food Safety

August 2006 to December 2017

Associate Director, Office of Plant and Dairy Foods

January 2005 to July 2006

Director, Division of Plant Products Safety

December 1999 to December 2004

Consumer Safety Officer and then Team Leader in the Biotechnology Policy Branch in the Office of Premarket Approval

December 1991 to November 1999

Pre FDA Career

Research Associate/Assistant Professor in the Department of Medicine (Section of

Hematology/Oncology) at the University of Chicago

July 1988 to November 1991

Research Associate/ Instructor in the Department of Biochemistry and Molecular Biology at the University of Chicago

January 1984 to June 1988

Lecturer, Department of Biology, Addis Ababa University

September 1976 - September 1978

Researcher/writer, Curriculum Development Center, Ministry of Education of Ethiopia

July 2074 to August 2076

Professional Affiliations

Institute of Food Technologists

International Association for Food Protection

Publications

Books

Biological Science: Students' Text for Grade 11. M. Ingle, N. Beru, M. Tadesse, A. Teklei, M. Asras,

and R. Hagos. Berhan Ena Selam Printing Press, Addis Ababa, 1978.

Biological Science: Teachers' Guide for Grade 11. M. Ingle, N. Beru, M. Tadesse, A. Teklei, M. Asras,

and R. Hagos. Berhan Ena Selam Printing Press, Addis Ababa, 1978.

Biological Science: Students' Text for Grade 12. Ingle, M. Asras, R. Hagos, N. Beru, G. Wood Z.

Asfaw, and K. Dagne. Berhan Ena Selam Printing Press, Addis Ababa, 1980.

Biological Science: Teachers' Guide for Grade 12. M. Ingle, M. Asras, R. Hagos, N. Beru, G. Wood,

Z. Asfaw, and K. Dagne. Berhan Ena Selam Printing Press, Addis Ababa, 1980.

Chapters

Goldwasser, E., McDonald, J. and Beru, N. (1987) The Molecular Biology of Erythropoietin and the

Expression of its Gene. In: Molecular and Cellular Aspects of Erythropoietin and Erythropoiesis.

I.N. Rich, ed., pp. 11□21. Springer□Verlag, Heidelberg.

Goldwasser, E., Beru, N. and Smith, D. (1990) Erythropoietin. In: Colony Stimulating Factors; Molecular and Cellular Biology. M. Dexter, J.M. Garland and N.G. Testa, eds., pp. 257□276. Marcel Dekker, Inc., New York.

Goldwasser, E., Beru, N. and Smith, D. (1990) Erythropoietin: The Primary Regulator of Red Cell Formation. In: Handbook of Experimental Pharmacology: Peptide Growth Factors and Their Receptors, M. B. Sporn and A.B. Roberts, eds., V. 95I, pp. 747□770. Springer□Verlag, Heidelberg.

Hermine, O., Beru, N., Pech, N., and Goldwasser, E. (1992) An Autocrine Role for Erythropoietin. In Molecular Biology of Hematopoiesis, V. 2, N. G. Abraham, et al. eds., pp. 73□77. Intercept Ltd., U.K.

Papers

Beru, N. The Regulation of Hemoglobin Synthesis During Erythroid Differentiation. Ph.D. Thesis, Department of Biochemistry and Molecular Biology, The University of Chicago. December 1983.

Beru, N., Sahr, K. and Goldwasser, E. (1983) Inhibition of Heme Synthesis in Bone Marrow Cells by Succinylacetone: Effect on Globin Synthesis. J. Cell. Bioch. 21: 93□105.

Beru, N. and Goldwasser, E. (1985) Regulation of Heme Biosynthesis during Erythropoietin□Induced Erythroid Differentiation. J. Biol. Chem. 260: 9251□9257.

Beru, N., McDonald, J., Lacombe, C. and Goldwasser, E. (1986) Expression of the Erythropoietin Gene. Mol. Cell. Bio. 6: 2571□2575.

McDonald, J., Beru, N. and Goldwasser, E. (1987) The Rearrangement and Expression of the Erythropoietin Genes in Transformed Mouse Cells. Mol. Cell. Bio. 7: 365□370.

Beru, N., McDonald, J. and Goldwasser, E. (1987) Expression of the Erythropoietin Gene. Blood Cells 13: 263□268.

Nijhof, W., Wierenga, P.K., Sahr, K., Beru, N. and Goldwasser, E. (1988) The Induction of Globin mRNA Transcription by Erythropoietin in Differentiating Erythroid Precursor Cells. Exp. Hemat. 15: 779□784.

Beru, N., McDonald, J. and Goldwasser E. (1989) Studies of the Constitutive Expression of the Mouse Erythropoietin Gene. Annals N.Y. Acad. Sci. 554: 29□35.

Beru, N., McDonald, J. and Goldwasser, E. (1989) Erythropoietin Gene Activation due to Proximity

of an Active Gene. DNA 8: 253□259.

Beru, N. and Goldwasser, E. (1989) Studies of Erythropoietin Gene Expression in the Mouse Erythroleukemic cell lines IW32 and NN10. Prog. Clin. Bio. Res. 319: 459□466.

Beru, N., Maples, P.B., Hermine, O. and Goldwasser, E. (1990) Differential Expression of the alphaand beta□Globin Genes in Erythroleukemic Cell Lines. Mol. Cell. Bio. 10: 3591□3595.

Beru, N. and Goldwasser, E. (1990) Studies of the Effect of Erythropoietin on Heme Synthesis. Adv. Exp. Med. Bio. 271: 87□94.

Beru, N., Smith, D. and Goldwasser, E. (1990) Evidence Suggesting Negative Regulation of the Erythropoietin Gene by Ribonucleoprotein. J. Biol. Chem. 265: 14100□14104.

Goldwasser, E. and Beru, N. (1990) Regulation of Erythropoietin Gene Expression. Prog. Clin. Bio. Res. 352: 225□226.

Beru, N. and Payton, M. (1991) BglII Polymorphism at the Human Erythropoietin Gene Locus. Nuc. Acids Res. 19: 1717.

Goldwasser, E. and Beru, N. (1991) The Regulation of Erythropoietin Gene Expression. Contrib. Nephrol. 88: 2□7.

Goldwasser, E., Beru, N. and Hermine, O. (1991) Some Aspects of the Regulation of Erythropoietin Gene Expression. Seminars in Hematology. 28: 28□34.

Hermine, O., Beru, N., Pech, N., and Goldwasser, E. (1991) An Autocrine Role for Erythropoietin in Mouse Hematopoietic Cell Differentiation. Blood. 78: 1□8.

Abraham, N. G., Levere, R. D., Lin, J. H□C, Beru, N., Hermine, O., and Goldwasser, E. (1991) Coregulation of the Heme Oxygenase and Erythropoietin Genes. J. Cell. Bioch. 47: 43□48.

Hermine, O., Dong, Y. J., Beru, N., and Goldwasser, E. (1993) Hemin or Butyrate Increases Constitutive Erythropoietin Formation by Mouse Erythroleukemia Cell Lines. Exp. Hemat. 21: 1207□1211.

Mujais, S. K., Beru, N., Pullman, T. N., and Goldwasser, E. (1999) Erythropoietin is Produced by Proximal Tubular Cells of the Rat Kidney. Cell Biochemistry and Biophysics. 30: 153□166.

Beru, N. Food Safety Aspects of Genetically Modified Products. Proceedings of the OECD Workshop on the Commercialization of Agricultural Products Derived through Modern Biotechnology held in Washington, DC, June 2□3, 1994. OECD Environment Monograph No.107. pp, 40□41, 1995

Beru, N. FDA's Food Biotechnology Policy. In Food Products from Plant Biotechnology, November 16□18, 1996 Ceres Forum organized by the Georgetown Center for Food and Nutrition Policy and the Science Museum of London, pp. 118□121, European Commission Press, 1998.

Beru, N. Food Ingredients from Plant Cell and Tissue Culture: Regulatory Consideration. Proceedings of an ACS Symposium on Plant Cell and Tissue Culture for Food Ingredient Production, San Francisco, California, April 13□15, 1997, Plenum Publishing Corp., New York, NY.

Beru, N. Foods from Genetically Engineered Plants: Safety and Regulatory Considerations. Proceedings of the Asia Pacific Workshop on Biosafety of Transgenic Plants, Madras, India, July 20□25, 1997, Oxford & IBH Publishing Co., New Delhi, India.

Beru, N. Foods from Genetically Engineered Plants. The FDA's Experience: 1992 to the Present. Proceedings of the 6th International Symposium on the Biosafety of Genetically Modified Organisms, Saskatoon, Canada, July 3□13, 2000, University of Saskatchewan Extension Press, Saskatoon, Canada. Pp 65□70

Beru, N., and Salisbury, Peter. FDA's Produce Safety Activities. Food Safety Magazine, pp 14□19, Feb/March 2002

Burnham, J., and Beru, N. FDA's Imported and Domestic Produce Survey. Advances in Microbial Food Safety: ACS Symposium Series 931, pp 298□310, 2006, American Chemical Society, Washington, DC.

Murray, C. W., Egan, K. S., Kim, H., Beru, N. and Bolger, P. M. (2008) U.S. Food and Drug Administration's Total Diet Study: Dietary Intake of Perchlorate and Iodine, Journal of Exposure Science and Environmental Epidemiology, V 18, pp 571□580.

Bolger, M., Egan, S., South, P., Murray, C., Robin, L., Wood, G., Kim, H., and Beru, N. (2008) US Food and Drug Administration's Program for Chemical Contaminants, In Intentional and Unintentional Contaminants in Food and Feed, ACS Symposium Series, Vol. 1020, Chapter 2, pp 7□24.

Buchanan, R., Dennis, S., Gendel, S., Acheson, D., Assimone, SA., Beru, N., Bolger, P., Carlson, D., Carvajal, R., Copp, C., Falci, K., Garber, E., Harden, E., Kane, R., Kvenberg, J., Luccioli, S., Park, D., Raybourne, R., Troxell, T., and Vierk, K., (2008) Approaches to Establishing Thresholds for Major Food Allergens and for Gluten in Food, Journal of Food Protection, Suppl. Vol. 71, pp 1043□1088.

Abstracts

Beru, N. McDonald, J., Lacombe, C. and Goldwasser, E. (1986) Expression of the Erythropoietin Gene. Fed. Proc. 45: 1586.

Maples, P.B., Beru, N. and Goldwasser, E. (1986) Studies of Globin Gene Transcription and Hemoglobin Formation in Retrovirus□Transformed Erythropoietin□Secreting Cells. Fed. Proc. 45:1586.

Nijhof, W., Wierenga, P.K., Sahr, K., Beru, N. and Goldwasser E. (1986) The Induction of Globin mRNA Transcription by Erythropoietin in Differentiating CFU□E. Exp. Hemat. 14:

Maples, P.B., Smith, D.H., Beru, N. and Goldwasser, E. (1986) Identification of Erythropoietin□ Producing Cells in Mammalian Tissue by In Situ Hybridization. Blood 68: 170.

Beru, N., McDonald, J. and Goldwasser, E. (1988) Activation of the Erythropoietin Gene Mediated by Translocation. FASEB J. 2: 361.

Beru, N., Smith, D.H. and Goldwasser, E. (1989) Evidence for a Negative Factor Regulating Erythropoietin Gene Expression. Leukemia Research 13 Suppl.1: 3.

Beru, N., Smith, D.H. and Goldwasser, E. (1989) Evidence for a Negative Regulator of the Erythropoietin Gene. Blood 74 Suppl. 1: 192a.

Abraham, N. G., Lin, J. H□C., Beru, N. and Goldwasser, E. (1990) Co□Regulation of the Heme Oxygenase and Erythropoietin Genes of Rat Kidney by Cobalt Chloride. Faseb J. 4: A2092.

Beru, N., Payton, M. and Goldwasser, E. (1990) Mapping of the DNase I Hypersensitive Sites in the 5' Region of the Murine Erythropoietin Gene. Blood 76 Suppl. 1: 132a.

Hermine, O., Beru, N., Pech, N. and Goldwasser, E. (1990) Evidence for an Autocrine Role for Erythropoietin in Early Hemopoiesis. Blood 76 Suppl.1: 98a.

Goldwasser, E., Hermine, O., Beru, N. and Pech, N. (1991) An Autocrine Role for Erythropoietin at the Multipotent Cell Stage of Hemopoiesis. Int. J. Cell Cloning 9: 313.

Pech, N., Hermine, O., Beru, N. and Goldwasser, E. (1991) Further Study of the Autocrine Regulation of Hemopoiesis. Blood 78 Suppl. 1: 313a.

Beru, N., Hermine, O. and Goldwasser, E. (1992) Binding of GATA□1 and CACC□Binding Protein to the Erythropoietin Gene. Blood 80 Suppl. 1:19a.

Beru, N. Food Ingredients from Plant Tissue Culture: Regulatory Considerations, American Chemical Society, April 13□15, 1997.

Beru, N. Experience with U.S. Regulatory Guidelines for Food Biotechnology, Institute for Food Technologists, June 20□24, 1998.

Price, W.D., Alewynse, M., and Beru, N. (1998) FDA's Genetically□Modified Plant Consultation Procedures, FDA Science Forum Book of Abstracts, p. 43, Dec. 8□9, 1998.

Beru, N. FDA Security Guidelines for Food Processors and Implementation of US Bioterrorism Legislation. American Oil Chemists Society 94th Annual Meeting and Expo, Kansas City, Mo, May 4□7,2003.

Burnham, J and Beru, N. FDA's Imported and Domestic Produce Survey, American Chemical Society, August 22□26, 2004

Robin, Kim, Wood, Beru (2008) Overview of Chemical Contaminants in Food, ACS Annual Meeting, New Orleans, LA, April 9, 2008.

Beru, N. Mycotoxins in Food and Feed - an FDA Perspective, The 5th World Mycotoxin Forum, Noordwijk, The Netherlands, Nov 1□18, 2008

Beru, N. Salmonella Saintpaul outbreak: Lessons Learned and future Perspectives at the Sixteenth Annual Meeting of the Center for Food Safety, University of Georgia, March 3□4, 2009

Beru, N. Managing Chemical Contaminants in Foods, AOAC meeting - 103 annual AOAC International Meeting, September 13□16, 2009

Beru, N. Managing Chemical Contaminants in Food, International Association for Food Protection July 12□15, 2009

Beru, N. FDA Update on Acrylamide in Food, Institute of Food Technologists, June 11□14, 2011.

Beru, N. Arsenic in Food: FDA Activities, Institute for Food Technologists, July 13□16, 2013.

1. Studies on the Constitutive Expression of the Mouse Erythropoietin Gene. Molecular and Cellular Controls of Hematopoiesis. Ajijic, Mexico, Feb. 13-15, 1988.

2. Studies of Erythroid Differentiation and Erythropoietin Gene Expression in the Erythroleukemic Cell Lines IW32 and NN10. Seventh International Conference on Red Cell Metabolism. Ann Arbor, Michigan, Oct. 25-27, 1988.

3. Studies of the Effect of Erythropoietin on Heme Synthesis. Fourth Conference on the Molecular Basis of Hematopoiesis. Reno, Nevada, Oct. 31- Nov. 1, 1988.

4. Evidence for a Negative Factor Regulating Erythropoietin Gene Expression. Fifth Annual Symposium on Molecular Biology of Hematopoiesis. Innsbruck, Austria, July 10-12, 1989.

5. Evidence for a Negative Regulator of the Erythropoietin Gene. Annual Meeting of the American Society of Hematology. Atlanta, GA, Dec. 1989.

6. Some Aspects of Regulation of Erythropoietin Gene Expression. International Workshop on Biogenesis of Erythropoietin. Paris, France, Sept.13-14, 1990.

7-15. Research seminars presented at:

Merck Sharp & Dohme Research Laboratories, Rahway, NJ, July 1987

Travenol Laboratories, Inc., Round Lake, IL., July 1987

Dept. of Medicine, Section of Hematology/Oncology, University of Chicago, Chicago, IL., May 1988.

Chugai Upjohn Company, Chicago, IL., November 1989.

Dept. of Biology, DePaul University, Chicago, IL, April 1990

Dept. of Molecular and Cellular Biochemistry, Loyola University Medical School, Maywood, IL, February 1991

Dept. of Medicine, Section of Endocrinology, University of Chicago Medical Center, Chicago, IL., March 1991.

Center for Biologics Evaluation and Research, FDA, Bethesda, MD., June 1991.

Tanabe Research Laboratories, San Diego, CA, September 1991.

16. FDA Perspectives on Plant Foods Derived through Biotechnology. Biotechnology Symposium, Eastern Food Science Conference VIII. Princeton, NJ, Oct. 20, 1993.

17. Safety assessment of the kanamycin resistance marker gene product, aminoglycoside 3'-phosphotransferase II in transgenic tomatoes. Meeting of FDA's Food Advisory Committee. Chantilly, VA, April 6-8, 1994.

18. FDA's Policy for Food Biotechnology, GRAS Substances and Food Additives: Kanamycin Resistance. CDER Staff College Course on Advanced Biotechnology II. Rockville, MD, May 17, 1994.

19. Food Safety Aspects of Genetically Modified Products. OECD Conference on the Commercialization of Agricultural Products Derived through Modern Biotechnology. Washington, DC, June 2-3, 1994.

20. Consultation Procedures on Foods Developed Using Recombinant DNA Technology. Joint meeting of FDA's Food, and Veterinary Medicine Advisory Committees. Crystal City, VA, November 2 -3, 1994.

21. FDA's Food Biotechnology Policy. Symposium on Risks and Regulations: Prospects for Food Safety and Health Protection in the 21st Century. West Virginia Academy of Sciences Annual Meeting. Concord College, Athens, WV. April 20, 1996.

22. Safety and Regulatory Aspects of Foods Derived using Recombinant DNA Techniques. APHIS Workshop on Field Testing and Commercialization of Transgenic Plants for Latin American/Caribbean Regulatory Officials. Riverdale, MD, September 30-October 4, 1996.

23. Food Biotechnology Issues in the Course "Ensuring Safety, Regulating Health Information, and Coordinating Advances in Biotechnology." Graduate School of Public Health, Georgetown University, Washington, DC, October 23, 1996.

24. Commercialization Issues: Regulatory Framework. CERES Forum on Food Products from Plant Biotechnology. Chantilly, VA, November 16-18, 1996

25. FDA's Food Biotechnology Policy; Food and Color Additive Approval Process. US. - Israel Technology Commission Food Workshop. Herzliya, Israel, December 2-4, 1996.

26. FDA's Food Biotechnology Policy; Food and Color Additive Approval Process. JEDCO Food Workshop. Amman, Jordan, December 5, 1996.

27. FDA's Food Biotechnology Policy. Presentation to Monsanto Management Trainees. Washington, DC, March 14, 1997.

28. Food Ingredient from Plant Cell and Tissue Culture: Regulatory Considerations. ACS Symposium on Plant Cell and Tissue Culture for Food Ingredient Production. San Francisco, CA, April 13-15, 1997.

29. Foods from Genetically Engineered Plants: Safety and Regulatory Considerations. Asia Pacific Workshop on Biosafety of Transgenic Plants. Madras, India, July 20-25, 1997.

30. Bioengineered Foods: Safety and Regulatory Issues. Expert Consultation on the Safety Assessment of Genetically Modified Foods. Institute for Food Safety and Toxicology, Copenhagen, Denmark, November 12, 1997.

31. Safety Evaluation of Antibiotic Resistance Marker Genes Used in Transgenic Plants. British House of Lords Committee on FDA activities on antibiotic resistance, Rockville, MD, November 18, 1997.

32. Experience with the U.S. Regulatory Guidelines for Food Biotechnology. IFT Symposium on Development in Global Biotechnology Regulation, Atlanta, GA, June 20-24, 1998.

33. FDA's Genetically Modified Plant Consultation Procedures. Poster presented at the 1998 FDA Science Forum "Biotechnology: Advances, Applications & Regulatory Challenges, Washington, DC, December 8-9, 1998.

34. FDA Policy regarding Bioengineered Foods; Safety Evaluation of Antibiotic Resistance Marker Genes in Transgenic Plants and Evaluation of Allergenicity. Workshop on US/South African on Biotechnology Regulation, Pretoria, South Africa, August 3-5, 1999.

35. Key Regulatory Issues and how they are Being Handled. IFT Partnership for Growth Symposium, Dallas, TX, June 11, 2000.

36. Foods from Genetically Engineered Plants: FDA's Experience: 1992 to the Present. Sixth International Symposium on the Biosafety of Genetically Modified Organisms, Saskatoon, Canada, July 9-13, 2000.

37. Domestic Produce Investigation Training Workshop: How to Facilitate a Traceback Investigation: Yuma, AZ, January 29, 2001.

38. Domestic Produce Investigation Training Workshop: How to Facilitate a Traceback Investigation: Oxnard, CA, February 1, 2001.

39. The US Produce Safety Initiative: Outreach Meeting on Food Safety for Africa: Midrand, South Africa, March 27-29, 2001.

40. Avoiding a Starlin Situation, Food Safety Summit and Expo, Washington, DC, April 17, 2001.

41. FDA's Domestic and Imported Produce Surveys: Need for Data on the Incidence of Microbial Contamination of Produce: USDA/AMS Microbiological Data Program Public Meeting, Washington, DC, January 10, 2002.

42. Comments on IFT Report on Microbiological Safety of Fresh and Fresh-Cut Produce: IFT's

International Food Safety and Quality Conference and Expo, Atlanta, GA, Feb 20-22, 2002.

43. The Juice HACCP Regulation: Updates of Topical Issues, IFT's International Food Safety and Quality Conference and Expo, Atlanta, GA, Feb 20-22, 2002.

44. FDA's Food Safety Initiative, at the Food Safety Meeting with the Andean Community, Lima Peru, April 18-18, 2002.

45. Produce Safety and the Juice HACCP Regulation, at the Seminar for Embassy Representatives, Washington, DC, June 10, 2002

46. Proposed regulations implementing the Bioterrorism Act of 2002. Fruit and Vegetable Agricultural Technical Advisory Meeting, USDA/FAS, Washington, DC, January 28, 2003

47. Overview of Registration and Prior Notice Proposed Regulations Implementing the Bioterrorism Act, National Potato Council, Jacksonville, FL, March 6, 2003.

48. Overview of Registration and Prior Notice Proposed Regulations Implementing the Bioterrorism Act. American Whole Sellers Association, Washington, DC, March 21, 2003.

49. Overview of FDA's Proposed Regulations Implementing the Bioterrorism Act and Food Security Guidelines. Annual Meeting of the American Oil Chemists Society, Kansas City, MO, May 7, 2003.

50. Overview of FDA's Proposed Regulations Implementing the Bioterrorism Act, American Fisheries Institute, Washington, DC, May 21, 2003.

51. Overview of the Proposed Regulations Implementing the Bioterrorism Act, Simultaneous Video Cast to Eight Central and Latin American Countries, World Bank, Washington, DC, June 12, 2003

52. The Recordkeeping Proposed Rule Implementing Section 306 of the Bioterrorism Act, International Bottled Water Association, Washington, DC, June 19, 2003

53. Proposed Regulations Implementing the Bioterrorism Act, at the JIFSAN/FDA workshop on good agricultural practices, Veracruz, Mexico, July 28 to August 1, 2003.

54. Overview of the regulations implementing the Bioterrorism Act at the Florida Fruits and Vegetable Association Convention, Key Biscayne, Florida, September 23, 2003

55. Proposed Regulations Implementing the Bioterrorism Act, International Pharmaceutical Excipients Council of the Americas, Washington, DC, October 1, 2003

56. Presentations on FDA's Regulations Implementing the Bioterrorism Act at two workshops at the annual convention of the Produce Marketing Association, Orlando, FL October 18 and 20, 2003.

57. Presentation on FDA's Perspective on the Perchlorate Issue, workshop at the annual convention of the Produce Marketing Association, Orlando, FL, October 19, 2003.

58. Presentation on the Juice HACCP Regulation at the Worldwide Food Expo, Chicago, Illinois, October 30, 2003

59. Fresh Produce Outbreaks in the US and Possible Sources of Contamination at the UFFVA/FMI Annual Convention, Chicago, IL, May 3, 2204.

60. Good Agricultural Practices Produce Safety Initiatives 1997-2004 at the UFFVA/FMI Annual Convention, Chicago, IL, May 3, 2004.

61. Moderator of the public meeting on FDA's draft produce safety action plan held in College Park, MD, June 29, 2004.

62. FDA's Imported and Domestic Produce Surveys, American Chemical Society Annual Meeting, Philadelphia, PA, August 26, 2004.

63. FDA's Produce Safety Action Plan, Annual Meeting of the Produce Marketing Association Anaheim, CA, October 18, 2004.

64. FDA's Produce Safety Action Plan, Webcast organized by United Fresh Fruits and Vegetables Association, November 16, 2004.

65. Recordkeeping rule under the Bioterrorism Act, Alliance for Food Safety and Security, December 15, 2004

66 - 78. Presentations ae outreach meetings for the recordkeeping rule under the Bioterrorism Act of 2002

Chicago, IL public meeting, January 25, 2005

Orlando, FL public meeting, January 27, 2005

Boston, MA public meeting, February 1, 2005

Webcast, United Fresh Fruits and Vegetables Assn, February 3, 2005

Presentation for ORA's Public Affairs Specialists and Small Business Reps, Feb 9, 2005

National Food Processors Association, Feb 10, 2005

Ohio State University meeting in Columbus organized for the food industry, Feb. 16, 2005

ORA University downlink for field staff, March 3, 2005

Fifty-state call, April 14, 2005

Los Angeles, CA public meeting, June 8, 2005

Webinar by Xtalks, January 17, 2006

Webinar by International Warehouse Logistics Association, Jan 25, 2006

79. Overview of FDA's recent activities regarding contaminants in foods. Workshop on Risk Analysis/Risk Communication Related to the Occurrence of Emerging Chemicals in Food, Ottawa, Canada, March 23-24, 2006.

80. Produce Safety Initiative/Produce Safety Action Plan, Tomato Forum, Orlando, FL, November 30, 2006.

81. Produce Safety Initiative/Produce Safety Action Plan, FMI Workshop on Leafy Greens, Phoenix, AZ, December 2006.

82. FDA's Incidence Prevention Activities, International Workshop on Identifying Future Threats to Food Safety, Organized by UK FSA, March 5-6, 2007.

83. The spinach outbreak and leafy greens initiative, Second Congress: Approaches to Risk Management

throughout Product Life Cycles Advamed/FDA/Virginia Tech, May 16, 2007,

84. Roundtable Discussion on Research Needs, Workshop on the Role of Testing in the Safety of Fresh Produce, Oaklawn, IL, May 30-31, 2007.

85. Current FDA Initiatives in Produce Safety, Workshop on the Microbial Safety of Produce in Canada: Current and Future State of Affairs, June 19, 2007.

86. Action Plan to Reduce Illnesses Associated with Consumption of Produce, Florida Association of Public Health Officials Annual Meeting, Tampa, FL August 2, 2007

87. FDA Activities Relating the Safety of Fresh Produce, Consumer Federation of America Annual National Food Policy Conference, Washington, DC, September 27, 2007.

88. How is FDA Addressing Food Safety Issues under its Existing Statutory Authorities, FDLI Conference, Washington, DC, January 24, 2008.

89. Chemical and Microbial Contamination in the US Food Supply: The View from the US FDA, 33rd Annual Winter Meeting of the Toxicology Forum, Washington, DC, January 31, 2008.

90. The Future Global Food Safety System, Go Global: Food Processing and Safety: An International Conference, Honolulu, HI, February 26, 2008

91. FDA perspectives on produce safety; Symposium on Produce Safety in Conjunction with the Conference for Food Protection, San Antonio, TX, April 11, 2008.

92. Overview of Chemical Contaminants in Foods, American Chemical Society Annual Meeting, New Orleans, LA., April 9, 2008

93. Fresh Produce Safety, 15th Inter-American Meeting at Ministerial Level on Health and Agriculture, Rio de Janeiro, Brazil, June 11-12, 2008

94. Outbreak of Salmonellosis Linked to Tomatoes: International Tomato Congress, Leon, Mexico, July 23, 2008

95. Panel Discussion on Global Challenges of Delivering Safe and Nutritious Food, 2008 National Center for Food Safety and Technology Annual Meeting, Oakbrook, IL, October 16, 2008

96. Mycotoxins in Food and Feed - An FDA Perspective, the 5th World Mycotoxin Forum, Noordwijk, The Netherlands, Nov 17-18, 2008.

97. Salmonella Saintpaul Outbreak: Lessons Learned and Future Perspectives, Center for Food Safety Annual Meeting, Atlanta, GA, March 3-4, 2009

98. FDA Report at the National Conference of Interstate Milk Shipments, Orlando, FL, April 19, 2009

99. Managing Chemical Contaminants in Foods, IAFP, July 13, 2009, Grapevine, Texas.

100. Food Safety Policy and Legislation on the Radar. IAFP, July 13, 2009, Grapevine, Texas,

101. Managing Chemical Contaminants in Foods, Annual AOAC International Meeting, Philadelphia, PA, September 15, 2009

102. Development of FDA's Final Rule: Prevention of SE in Shell Eggs during Production, Transportation, and Storage, Public Meeting in Chicago, September 30, 2009.

103. FDA perspective on produce safety, Georgetown Produce Safety Project Stakeholder Meeting, Columbus, OH, March 11, 2010.

104. The Regulatory Landscape - National and Global, National Restaurant Association Educational Workshop regarding "The Facts about Acrylamide and Mitigation Approaches for Restaurants." Washington, DC, May 25, 2010

105. Overview of FDA's Chemical Contaminants in Foods Program; The National Academies of Science's Board on Environmental Studies and Toxicology, Washington, DC, July 19, 2010

106. FDA Foods Program Update: Current Activities and Future Considerations; Food Regulatory and Quality Assurance Summit, Toronto, Canada, October 20, 2010.

107. Overview of Chemical Contaminants in Food, National Center for Food Safety and Technology Annual Meeting, Oakbrook, IL, October 26, 2010

108. FDA Perspectives on Spice Food Safety, Annual Meeting of the International Pepper Community, Cochin, India, November 9, 2010.

109. Food Safety Modernization Act Outreach United Fresh Government Relations Council, February 15, 2011, Washington, D.C.

110. FDA Report at the National Conference of Interstate Milk Shipments, Baltimore, MD May 1, 2011

111. FDA Update on Acrylamide in Food, IFT Annual Meeting, New Orleans, LA June 14, 2011

112. Food Safety Modernization Act Outreach, Institute of Edible Oils and Shortenings Board of Directors, September 28, 2011

113. Mycotoxins in Food: An FDA Perspective, IIT IFSH/UW FRI Mycotoxin Symposium, April 12, 2012, Rosemont, IL.

114. The FDA Report, Biennial Meeting of the Conference for Food Protection, April 14, 2012, Indianapolis, IN.

115. Chemical Contaminants in Foods: They are there but are they unsafe? Institute for Food Safety and Health Annual Meeting, September 20, 2012, Burr Ridge, IL

116. FDA Report at the National Conference of Interstate Milk Shipments, Indianapolis, IN April 21. 2013

117. Arsenic in Food: FDA Activities, IFT Annual Meeting, Chicago, IL July 15, 2013

118. Mycotoxins in Food: An FDA Perspective, Joint Special Meeting of the Toxicology Forum and Regulatory Governance Initiative, Ottawa, Canada, September 19, 2013

119. Chemical Contaminants in Foods, GMA Chemical Management Committee, Washington, DC, April 9, 2014

120. Current Issues in Chemical Contaminants in Foods, OARSA Seminar, Beltsville, MD April 17, 2014

121. FDA's Food Safety Priorities for the Dairy Industry, IDFA Regulatory Roundup, Washington, DC, June 25, 2014.

122. CFSAN Update, Shelf-Stable Food Processors Association, Washington, DC, October 16, 2014

123. FDA Report, National Conference on Interstate Milk Shipments, Portland, OR, April 26, 2015

124. Regulatory Approaches to Process-Formed Compounds, ILSI North America Workshop on Risk Based Process for Mitigation of Process Formed Compounds, Washington, DC, May 12, 2015

125. United States and International Risk Management Options for Food Borne Chemical Contaminants, Joint Institute for Food Safety and Applied Nutrition Course on Risk Assessment, College Park, MD, October 29, 2015

126. Chemical Signals Detection, Meeting of the International Food Chemical Safety Liaison Group, Rotterdam, the Netherlands, April 8, 2016.

127. FDA Update on Arsenic in Rice, Meeting of the International Food Chemical Safety Liaison Group, Rotterdam, the Netherlands, April 9, 2016.

128. FDA Report, Conference for Food Protection, Boise, Idaho, April 16, 2016.

129. Mycotoxins in Food and Feed: An FDA Perspective in a Changing World, Joint Meeting of the 9th Conference of the World Mycotoxin Forum and the XIVth IUPAC International Symposium on Mycotoxins, Winnipeg, Canada, June 6, 2016.

130. FDA Update, American Cheese Society Annual Meeting, Des Moines, Iowa, July 29, 2016

131. FDA Report, National Conference of Interstate Milk Shipments, Grand Rapids, MI, May 14, 2017